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Draft

ENVIRONMENTAL  
MANAGEMENT PLAN  
WORK PROGRAM

San Francisco Bay Region

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Environmental policy -- CA --  
SF metro area

**WORKING DRAFT  
DISCUSSION ONLY**

Submitted to the  
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# ENVIRONMENTAL MANAGEMENT PLAN

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- ... SURFACE RUNOFF
  - ... AIR QUALITY MAINTENANCE
  - ... MUNICIPAL WASTEWATER FACILITIES
  - ... OTHER NON-POINT SOURCES OF WATER POLLUTION
  - ... INDUSTRIAL WASTEWATER
  - ... WATER CONSERVATION, REUSE AND SUPPLY
  - ... SOLID WASTE MANAGEMENT
- 
- ... CONTINUING PLANNING PROCESS



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## INTRODUCTION

This work program for preparing the Environmental Management Plan for the Bay Area is composed of the following sections:

Introduction. This section describes the reasons why the Environmental Management Plan is being prepared and gives a brief history of planning for air, water and solid waste management in the region.

Major Products. This section describes what will be produced during the two-year program.

Impact of the plan on the region. This section describes how the plan will improve the quality of the environment in the region. It discusses authority for preparing and carrying out the plan.

Guiding principles for development of the work program. This section sets forth the principles that have guided the development of the work program.

Problems to be addressed. This section describes the air quality, water quality, and solid waste problems to be addressed by the Environmental Management Plan.

Process for preparing the plan. This section describes in general terms how the plan will be prepared.

Organization for preparing the plan. This section describes the roles of public agencies in the preparation and approval of the plan.

Tasks and scheduling. This section identifies all of the major tasks in the preparation of the Environmental Management Plan. It shows how they relate to one another and how they are scheduled.

Task descriptions. This section consists of one-page descriptions of the tasks identified in the preceding section.

Budget. This section summarizes the distribution of funds among the various agencies and work tasks.

Resolutions of intent. This section includes a draft resolution of intent to be signed by local agencies and copies of resolutions obtained to date. The latter are not included in the draft work program.

Agreements with other agencies. Only preliminary work has been done with respect to these agreements. They will be included in the final draft.



The funds for this program (\$4.3 million) come from the U. S. Environmental Protection Agency. These funds were authorized under Section 208 of the Water Pollution Control Act Amendments of 1972, which provided for the preparation of areawide waste treatment management plans in urban/industrial areas. The approach to preparing the "208 plan" for the Bay Area will have a broader perspective than most other 208 programs in the nation. Hopefully, this broad perspective will avoid conflicting or overlapping plans. In this region, air quality, solid waste, water supply, and water quality problems will be addressed. An air quality maintenance plan will be prepared in compliance with the federal Clean Air Act of 1970. The resultant Environmental Management Plan for air, water and solid waste prepared by ABAG in cooperation with local, regional, state, and federal agencies, will be the environmental management element of ABAG's Regional Plan which includes other elements such as housing and transportation.

The air quality, water quality, and solid waste problems to be addressed in this program, presented in summary form in the problem statement, lead to the following conclusions:

The air quality problem is regional in scope, and its solution is likely to demand both a regional and local perspective.

Some of the water quality issues, such as the effect of Sacramento River Delta outflow on the Bay, are obviously regional.

Other water quality problems, such as the effects of surface runoff in receiving waters, tend to be local or subregional in nature.

Solid waste problems may be dealt with at the county level for a few more years, but longer-term planning demands a regional perspective.

Progress toward dealing with various environmental problems has been made at different rates. Much has been done, for example, to control pollution from municipal and industrial wastewater treatment plants. Listed below are the major events in the recent past:

In 1968 the Bay-Delta Water Quality Control Plan was completed by the State Water Resources Control Board. This plan outlined a regional system for treating and disposing of municipal and industrial waste. The plan was developed with little local involvement, and because of local opposition, most of its measures were not adopted.



Beginning in 1970, under pressure from regulatory agencies, various groups of wastewater dischargers in the Bay Area joined together to develop subregional water quality management plans. Most of the plans have been developed, and facilities are being designed and constructed. In a few areas, however, planning is just beginning or is still in progress.

In 1972 the state legislature created the Bay Area Sewage Services Agency (BASSA). BASSA was charged with adopting a water quality management plan. Where local agencies are unwilling or unable to carry out the plan, BASSA has been given the authority to plan, design, construct, and operate the necessary facilities and charge the area served.

In 1972 the federal Water Pollution Control Act Amendments were passed. The Act called for basin plans for water quality control, set up a system of permits for all wastewater discharges, authorized grant funds for sewerage facility construction, and, in Section 208, required areawide waste treatment management plans for major urban/industrial complexes.

The Act specified the minimum levels of treatment required regardless of where wastewaters are discharged, provided the funding and defined the necessary planning. Thus, the federal act largely usurped the implementation role for which BASSA was created.

In 1975, the San Francisco Bay Basin Plan, authorized by the 1972 Water Pollution Control Act Amendments, was completed. For the most part, it endorsed the findings of the subregional wastewater studies and provided a basis for the granting of federal and state funds for the construction of sewerage facilities.

The Basin Plan also identified surface runoff as a source of pollution that will increase in importance as municipal and industrial point sources are brought under control.

The State Water Resources Control Board allocates sewage treatment facility construction grants only for facilities whose capacity to treat or transport wastes is consistent with low projections of population growth in basins with serious air quality problems; most of the Bay Area is in such a "critical air basin."

Recently, the EPA has begun to require as a condition for major sewage facilities grants that environmental impact statements (EIS) include investigations of secondary environmental impacts



(such as air quality impacts) and present measures to mitigate the effect of any adverse secondary impacts. Implementation of these measures has not yet been made a condition for receiving grants, but the intent of the EPA actions is clear: EPA desires to use the leverage provided by the construction grant program of the Federal Water Pollution Control Act to achieve other federally mandated environmental goals.

This brief history of measures to abate water pollution caused by municipal and industrial point sources in the region leads to three major conclusions:

Implementable plans were not developed until planning was done by local agencies -- the agencies responsible for implementing the plans.

Federal and State mandates that require certain programs and provide funds will help speed the implementation of those programs.

Water quality management planning is expanding to include other environmental concerns.

Listed below are the major past events in air quality planning in the region:

In 1955 the State legislature created the Bay Area Air Pollution Control District (BAAPCD), which was the first regional agency dealing with air pollution to be formed in the nation. The jurisdiction of the BAAPCD is largely limited to policing nonvehicular sources of air pollution, primarily industry and burning. Its regulations have substantially reduced pollutant emissions.

In 1967 the California legislature established the Air Resources Board (ARB) to deal with the State's air pollution problem. The ARB has authority over motor vehicle emissions.

In 1970 the federal Clean Air Act was passed. Under this act, the states are primarily responsible for developing and submitting to the EPA state implementation plans (SIP) that contain measures to attain and maintain the national ambient air quality standards. The ARB is responsible for developing California's SIP. The first California SIP was submitted to the EPA in February 1972; it was found to be deficient because it did not include adequate control strategies for attaining air quality standards.



As a result of several court suits, EPA required California to submit a Transportation Control Plan (TCP) to correct some of the inadequacies of the SIP. Because of the enormity of the task and the short amount of time available, the State defaulted on its responsibility and EPA was forced to promulgate a TCP in many areas, including the San Francisco Bay Area. The November 1973 EPA-TCP included gas rationing to achieve air quality standards.

The State then exercised its option to prepare its own TCP. The California Department of Transportation (Caltrans) was the State agency designated to prepare the TCP; responsibility for the TCP for the San Francisco Bay Area was delegated to the Metropolitan Transportation Commission (MTC). MTC and Caltrans completed a TCP early in 1975 directed toward short-term measures that could be implemented by 1977, the date for compliance with national ambient air quality standards.

A court order led to an EPA requirement for the identification of air quality maintenance areas (AQMA), areas that have the potential for long-term air pollution problems. The San Francisco Bay Area was identified as an AQMA in June 1974 by the ARB and in September 1975 by the EPA. EPA regulations require the development of an Air Quality Maintenance Plan (AQMP) for each AQMA. The AQMP will include land use and transportation planning measures and programs for strict enforcement of technical controls. ABAG's Environmental Management Task Force is responsible for the development of the Bay Area AQMP.

Listed below are the significant events in solid waste management in the Bay Area:

In 1965 ABAG completed a study of refuse disposal needs. In this study, regional roles in identifying multi-jurisdictional waste disposal sites, encouraging inter-governmental resource recovery activities, and seeking federal or state funds for resource recovery research and demonstration projects were discussed.

In 1971 the San Francisco Planning and Urban Renewal Association (SPUR) completed a solid wastes management system report for the Bay Region (now known as the Bay-Delta Project). The report recommended a demonstration project to test the feasibility of separating municipal wastes and transporting the composted organic part to a Sacramento-San Joaquin Delta island for land reclamation and levee stabilization.



The ABAG Executive Board endorsed the concept and invited local governments to join in initiating a demonstration project. A grant was obtained from EPA to plan a pilot project, an implementation program, and a financial plan. The project report, the Bay Area Solid Waste Management Implementation Project, was published in December 1973. Because of funding problems, the project has not yet been implemented.

In 1972 the Nejedly-Z'Berg-Dills Solid Waste Management and Resource Recovery Act (SB-5) was passed requiring that all counties in the state prepare comprehensive countywide plans for solid waste management.

In late 1975, the counties completed the preliminary solid waste management plans pursuant to SB-5. The county plans are essentially limited to disposal of urban wastes within counties. They do not address multi-county resource recovery operations or the full range of wastes that must be considered in a regional management program: construction and demolition wastes, hazardous and toxic wastes, wastewater residuals, agricultural and industrial wastes, dredge spoils, and floating debris.

These events are the context in which this Environmental Management Plan must be prepared. The Plan must be directed toward establishing a structure for dealing with the remaining environmental problems in the region, building on the progress already made, but not disrupting the implementation of previously developed plans that are still relevant.



## MAJOR PRODUCTS OF THE ENVIRONMENTAL MANAGEMENT PLAN

### INTRODUCTION

The purpose of this section is to describe the products of the Environmental Management Plan, an element of ABAG's Regional Comprehensive Plan.

The products can be grouped as follows:

1. Management plans\*
2. Special study results
3. Assessment of the environmental, social, and economic impact of the management plans
4. A continuing planning program

The first group consists of seven major management plans. Each management plan, except the last two, includes control measures and institutional/financial, legislative, and other actions necessary to implement the control measures. The management plans for solid waste and water conservation, reuse, and supply will not contain components for institutional/financial mechanisms; those components of the plans will be developed in the continuing planning process. The management plans are:

Surface (urban and rural) runoff

Air quality (AQMP)

Municipal wastewater point sources

Industrial wastewater

Nonpoint sources other than surface runoff

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\* Because these plans comprise the Environmental Management Plan (EMP), and because the EMP is an element of the Regional Comprehensive Plan, the management plans will be sub-elements of the Regional Comprehensive Plan.

Solid waste (including hazardous waste and wastewater residuals)

Water conservation, reuse and supply

The second group consists of the results of special studies. These are:

The effect of Delta outflow, including agricultural drainage, on the Bay

The effect of dredging on the Bay

Special biological studies on

- shellfish
- algal blooms
- dungeness crab fishery
- annual fish kills

Contingency Plans

Energy/Air Quality Implications

Where possible, the results of these studies will be incorporated into the management plans. Otherwise, these studies will be a basis for action in the Continuing Planning Process.

The third group is an assessment of the environmental, social, and economic impact of the selected management plans. This assessment is required by law. This final assessment and similar assessments conducted earlier in the two-year planning process will be a basis for selection of control measures for the management plans.

The fourth group, the continuing planning program, includes the following functions:

Identifying emerging environmental issues and methods for dealing with them

Providing the general public and agencies with program information eliciting and responses

Providing environmental information, including forecasting, on a routine basis

Updating the plan

Inventorying agency plans and actions



Using and refining working relationships among agencies developed during preparation of the plan

Monitoring plan implementation

MANAGEMENT PLANS: SUB-ELEMENTS OF THE REGIONAL  
ENVIRONMENTAL MANAGEMENT PLAN

For each management plan, a list of the reasons for preparing the plan is presented. It is not possible at the beginning of this planning effort to fully anticipate specific products.\* However, each plan, (except for solid waste and water conservation, reuse, and supply), will consist of control measures and the institutional/financial, legislative, and other actions necessary to implement the control measures. Control measures to be considered will include everything from large structures to changes in land use practices, and could include street cleaning, industrial wastewater pretreatment, and regulation of automobile use.

Surface Runoff

Reasons for preparing the plan:

Control measures for urban runoff are required by Section 208 (b) (2) of the Water Pollution Control Act Amendments of 1972.

Most nonpoint pollution results from surface runoff.

Pollutant load percentage will increase in the future because of urban development and as point source pollution is abated.

Surface runoff is a major cause of shellfish contamination.

Runoff causes high bacterial contamination and restriction of use of Lake Merced and Lake Merritt.

Runoff is a major source of heavy metal loadings to Bay waters in wet weather.

Surface runoff is probably the major source of litter in the Bay and on its shores and mudflats.

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\* More specific product definition is found in the sections on task descriptions.

Runoff from dairy farms enters tributaries in Marin and Sonoma counties and restricts and endangers beneficial uses of water bodies (i.e., water supply, fish spawning areas, and shellfish beds).

Almaden, Calero, and Guadalupe reservoirs are closed to fishing because of mercury contamination from upstream abandoned mines.

Runoff from logging operations and other activities affects existing and potential beneficial uses of San Mateo coastal streams.

Runoff from construction activities sometimes affects beneficial uses of water bodies.

Runoff from the copper slag heaps near Benicia enters Bay waters.

Control measures for agriculture, silviculture, and mine and construction related activities are required under Section 208 of the Water Pollution Control Amendments of 1972.

"Minimum standards for erosion control, especially related to construction activities" were recommended in the Basin Plan for the Bay Area.

#### Air Quality Maintenance\*

Reasons for preparing the plan:

Although significant progress has been made toward controlling sources of air pollutant emissions, ambient air quality frequently exceeds federal and state air quality standards.

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\*Based on the "Preliminary Air Quality Maintenance Plan (AQMP) Work Program," AQMP Policy Task Force, January 1976.



Violations of these standards are projected to continue into the foreseeable future, given trends in automobile use, land development, and population growth in the region.

The Bay Area is an Air Quality Maintenance Area (AQMA) for photochemical oxidants, sulfur dioxide, and particulates. Air quality problems in the southern part of the region and in the Livermore Valley are caused in part by emissions generated in other parts of the Bay Area.

Technological controls for automobiles and industry will not be adequate to maintain acceptable levels of air quality; therefore local governments will need to implement land use and transportation controls that are sensitive to air quality considerations. Transportation and urban growth policies that reflect air quality constraints will also be required at the regional level.

#### Municipal Wastewater Point Sources (201 Facilities)\*

Reasons for preparing the plan:

Section 208 of the Water Pollution Control Act Amendments of 1972 requires the preparation of a plan and the designation of an agency(s) to carry it out and states that neither discharge permits nor grants will be given agencies for facilities not in conformance with the plan.

Municipal point sources controls have not been implemented for much of the Bay Area, although much progress has been made.

Questions concerning the relationship of 201 facilities to secondary environmental effects (air quality and land use) have been raised and must be addressed in the preparation of this Environmental Management Plan.

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\*Planning and construction of these facilities are mandated under Section 201 of the Water Pollution Control Act Amendments of 1972.

## Industrial Point Sources

### Reasons for preparing the plan:

A facilities program is required by Section 208 of the Water Pollution Control Act Amendments of 1972.

Industrial discharges may be situated in critical water quality locations.

Major industries are situated along major fish migration and spawning routes, where annual fish kills occur.

Disposal of Leslie Salt brines is likely to cause water quality problems.

Industrial pretreatment requirements will result in more hazardous solid waste for disposal.

## Nonpoint Sources Other Than Surface Runoff (includes vessel wastes, septic tanks, and recreational area wastes)

### Reasons for preparing the plan:

Despite many years of concern and effort, houseboat problems in the region are still unsolved; raw sewage is discharged from houseboats into Richardson Bay and other areas.

In general, there are no facilities for disposing waste from pleasure craft and commercial vessels in compliance with existing regulations. This leads to localized impacts.

Sanitary facilities in recreational areas are inadequate to accommodate increased use.



Failing septic tank systems have caused water quality and public health problems. For example, septic tank effluents into Bear Gulch and Lake Hennessey watershed threaten water supplies.

Continued use or replacement of septic tank systems will affect growth patterns in suburban and rural areas (e.g. Santa Clara and Alameda counties).

### Solid Waste

Solid waste includes hazardous wastes and wastewater residuals; both are troublesome problems, but neither is significant in terms of the total amount of solid waste. Therefore, in this program, studies labeled solid waste will not consider hazardous wastes or wastewater residuals in detail, but will incorporate these two classes of wastes as submanagement plans. The work on solid wastes can be subdivided into three efforts: the development of an overall management plan on solid waste, and on the subplans on hazardous wastes and wastewater residuals.

#### Solid Waste. Reasons for preparing the plan:

About 10 million tons of municipal, industrial, and agricultural wastes were disposed of in the nine Bay Area counties in 1975.

Past and present solid waste disposal sites in close proximity to the Bay-Delta ground and surface waters have impaired water quality.

Because most of the existing disposal sites will be completely filled in less than ten years, new disposal sites or disposal methods will have to be developed in the near future.

There are no regional solid waste management programs for the various types of wastes, including hazardous and residual wastes.

Alternative regional solid waste management systems and their environmental, social, and economic impacts have not been fully evaluated.

Solid waste management is related to other nonpoint source control measures such as those for agricultural wastes and street sweeping.

The goal of the Bay Area Solid Waste Management Study conducted by the State Solid Waste Management Board is to evaluate alternative regional solid waste management systems and their environmental, economic, and social impacts. However, the study has only eight months to tackle complex technical, governmental and public issues. The stated goal may not be met. Therefore, the output of the study should be reviewed in relation to the desired output of the 208 plan.

Section 208 requires the following:

- A process to control the disposal of all residual waste generated in areas where water quality could be affected.
- A process to control the disposal of pollutants on land or in subsurface excavations in these areas to protect ground and surface water quality.

Wastewater Residuals. Reasons for preparing the plan:

It is estimated in the Basin Plan that by 1985, 944 tons/day of raw sludge will be generated in the region.

Planning for sewage sludge management has been directed toward short-range, uncoordinated solutions that may not be cost effective.



The Regional Municipal Wastewater Solids Management Study has the resources to develop a regional residual management plan. The 208 planning process should complement this effort.

Section 208 of the Water Pollution Control Act Amendments of 1972 requires the development of a process to control the disposal of all residual waste that could affect water quality.

Hazardous Waste. Reasons for preparing the plan:

The focus of the Group I Wastes Study being conducted by the SSWMB is on Group I wastes and Class I sites. Other Class II hazardous wastes that could have health or environmental impacts will not be considered.

Existing Class I (hazardous waste) disposal sites may be affecting the quality of groundwaters or the Bay.

The capacity of existing Class I sites will be exceeded within the planning horizon of this study. Other suitable sites are scarce.

The amount of hazardous waste generated could increase significantly because of, for instance, the installation of wastewater pretreatment facilities by industries that discharge waste to sewer systems.

Water Conservation, Reuse, and Supply

Reasons for preparing the plan:

Water conservation should be considered as a means of reducing the amount of wastewater in the region.

Water conservation programs instituted by some water agencies are changing projected demands.

The State Department of Health is developing criteria for reclamation and reuse of wastewater for groundwater recharge; these criteria could make reuse more favorable in some areas than was thought when the Basin Plan was prepared.

Changes in conservation and reuse could increase the need for regional or subregional cooperation for water supply.

## SPECIAL STUDIES

The special studies will address issues critical to the Bay Area environment. These studies will compile and analyze existing data to describe the present and future situation, including causes of problems and recommended solutions. The emphasis is on analysis of all existing information from a regional perspective rather than collection of new data. Where possible, the results of special studies will be incorporated in the management plans.

### Effect of Delta Outflow, Including Agricultural Drainage, on The Bay

Reasons for the study:

The degree to which Delta outflow and agricultural drainage affects sediment loads, nutrient concentrations, and salinity gradients in Suisun Bay and the western Delta is uncertain.

A specific salinity is required in Suisun Marsh and the western Delta to protect alkali bullrush and neomysis shrimp.

Delta outflow is the most important environmental aspect of the Bay system.

This aspect of salinity intrusion is required by Section 208 (b) (2) (i) of the Water Pollution Control Act Amendments of 1972.



## Effect of Dredging on the Bay

### Reasons for the study:

Sediments in some areas of the Bay are high in toxic metals.

Dredging applications are usually evaluated on a case-by-case basis.

Resuspension of sediments may have short-term and long-term effects.

Agencies and groups have been concerned about dredging practices.

Many concerns related to dredging, such as the impact of resuspended heavy metals, remain unanswered.

Much work has been done by the Corps of Engineers that has yet to be used in regional decision making.

## Special Biological Studies

### Shellfish. Reasons for the study:

Shellfish harvesting is prohibited or restricted because of high levels of bacterial and/or chemical contamination.

To protect shellfish beds, municipal and industrial facilities planning must be coordinated with urban runoff and wet weather control measures.

Potential use of shellfish beds requires coordination with total recreational uses.

Economic potential for a shellfish harvesting industry exists if beds are reopened.

### Algal Blooms. Reasons for the study:

Periodic and seasonal algal blooms are unsightly, cause odors, and depress oxygen levels (South Bay, Albany shoreline, Richardson Bay, Bolinas Lagoon, Petaluma and Napa rivers, Suisun Bay, and the western Delta).

Algal blooms may increase because of a decrease in Delta outflow and an increase in nutrients from pollution sources

Algal blooms could severely restrict uses of the Bay.

Unless causal relationships are better understood, conflicts between control measures for algal blooms and other problem elements could occur.

Dungeness Crab Fishery. Reasons for the study:

Crab fishery has severely declined over the last decade.

Economic losses occur because of poor crab catches.

Causal relationships are poorly understood.

There has been much publicity and concern about the declining crab catches.

Decline in crab fishery may be an indication of general, subtle environmental problems in aquatic biota.

The causes of the decline must be understood in order to determine the effectiveness of other control measures.

Annual Fish Kills. Reasons for the study:

Many striped bass die in Carquinez Strait in the summer.

Sharks and rays die along the Alameda shoreline each year.

Causal effects are poorly understood.



There is much public and scientific concern over this problem.

Fish kills may be an indication of subtle environmental pollution problems.

Control measures to solve this problem could affect control measures for other major elements of the plan.

### Contingency Plans

Reasons for the study:

Unusual events (spills, earthquakes, strikes) are the greatest threat to Bay and Ocean waters.

Contingency Plans for some events, for example, spills, already exist and should be part of any regional environmental plan.

The effect of earthquakes on water quality is usually a key criterion by which the public judges sewerage facilities.

Strikes have caused problems at wastewater treatment plants.

### Energy/Air Quality Implications

Reasons for the study:

Alternative national and state energy policies may significantly affect the fossil fuels consumed in the Bay Area.

In turn, these policies could have substantial air quality impacts, especially if "clean" burning fuels become less available in the region.

Many energy conservation programs can have an impact on improving air quality.

The air quality and energy implications of land use and transportation alternatives should be examined together.

## ASSESSMENT OF THE ENVIRONMENTAL, SOCIAL, AND ECONOMIC IMPACT OF CARRYING OUT THE MANAGEMENT PLANS

An assessment of the impacts of carrying out the management plans is required by Section 208 of the Water Pollution Control Act Amendments of 1972, at least for wastewater treatment and collection and for urban storm runoff systems. The assessment of the environmental impacts will be consistent with state and federal laws and regulations and will be similar to the assessments made during the two-year planning period (on which the evaluation of the alternative control measures will be based). The assessments will include the following tasks:

Establishing evaluation criteria: Criteria will be derived in part from the citizen participation program.

Developing assessment methods: Techniques to measure impacts will be defined.

Measuring impacts of various control measures: Predictive techniques that convert control measures into identifiable impacts will be developed, and the impacts identified will be given public review.

Evaluating impacts.

Producing interim outputs.

The final assessment will evaluate the total impact of the revised control measures derived from the first-go-around assessments and evaluations. Basically this will be the environmental impact for the plan.

## CONTINUING PLANNING PROGRAM

The continuing planning program will be developed as the Environmental Management Plan is being prepared and put into operation at the end of the planning period. It will use the knowledge gained during the planning process; the preparation of the plan can, therefore, be considered a "dress rehearsal" for the continuing planning process, which will be carried out after the two-year planning period ends. Thus, near the end of the planning process, the information developed will be analyzed and structured in a section of the final plan document(s) describing in detail the continuing planning process and the rationale for its development.



Listed below are the functions that the continuing planning process will probably include, but not be limited to:

Identifying new environmental planning issues and the agency(s) and actions (including formation of joint or new agencies, and changes in agency authority or funding) needed to deal with those issues.

Providing routinely the kind of information relevant to environmental management that was developed during the preparation of the plan, including:

- regional assessments of the social, environmental, and economic effects of new control measures and other actions, described in terms that permit application of assessment techniques.
- predictions of land use, employment, and population to serve as a basis for planning.

Undertaking additional special studies pertaining to environmental management.

Updating and possibly expanding the plan on a regular basis.

Monitoring the implementation of the plan and any updates.

Inventorying agency plans and actions that have significant environmental effects.

Using and refining the working relationships among agencies developed as the plan was prepared in order to solve environmental problems.

Developing a citizen participation process for environmental management that informs the public about problems and progress and receives input from the public on issues and actions to be taken.

Maintaining a readily accessible, up-to-date system for managing environmental data, especially air and water quality data.

## IMPACT OF THE PLAN ON THE REGION

The impact of the Environmental Management Plan on the region may not be known entirely until after the plan has been through the adoption and approval process. However, it is now known that certain actions of management agencies will be based on the plan. More is known about the impacts of the plan on water quality management than about its impact on air quality or solid waste management. Listed below are the actions mandated by law or regulations that it is now known will be taken based on the plan.

### WATER QUALITY

The plan will include a twenty-year project list for municipal and industrial waste treatment facilities. The list will include priorities for constructing storm runoff treatment facilities. The plan, however, is not limited to these elements.

The governor, in consultation with ABAG, will designate one or more waste treatment management agencies to carry out the plan.

After the plan is completed, EPA will allocate grants for the construction of publicly owned treatment works only if they conform to the plan.

Waste discharge permits are not now required for all municipal and industrial point source wastewater discharges. After the plan is completed, no permit will be issued for any point source that is in conflict with the approved plan.

### AIR QUALITY

EPA regulations require that the Air Quality Maintenance Plan contain rules and regulations to implement the measures contained in the plan. However, in the past, the severity of some air quality control measures (such as gas rationing) and the lack of public support have made it difficult to enforce the measures.

An AQMP must be developed that calls for controls strict enough to solve severe air quality problems but that also has the political support to make implementation of the controls possible.



## SOLID WASTE

Currently, there is no direct regional impact required by law on Solid Waste Management, but coordination of county plans may result in some regional programs. Approval of County Solid Waste Management Plans by the State Solid Waste Management Board will insure that the proposed solid waste disposal and resource recovery projects are consistent with county plans eligible for state financial assistance (loan guarantees, low-cost loans, grants). Such eligibility would extend to federal financial assistance if it were to become available through congressional action.

## GUIDING PRINCIPLES

This section consists of basic policy statements developed early in the preparation of the work program to provide guidance in its development. They cover the significant issues to be addressed in preparing the plan.

### COORDINATION WITH OTHER PLANS

#### Environmental Management Plan

The Environmental Management Plan (EMP) will be an umbrella regional plan element for ABAG's Comprehensive Regional Plan that will include three subelements:  
(1) the Areawide Wastewater Management Plan, (2) the Air Quality Maintenance Plan, and (3) a Solid Waste Management Plan.

The EMP will relate the three management plans through: (1) common definitions of study areas, (2) common or cooperative policy bodies, (3) consistency requirements extending from the use of the data to procedures that ensure that policy decisions are not made that are conflicting.

#### Air Quality Maintenance Plan

The air quality maintenance plan (AQMP) work program will be developed and prepared as an identifiable, integral component of the overall EMP work program.

Ongoing air pollution planning activities of the EPA, ARB, MTC, and BAAPCD will be coordinated through the AQMP, and thereby formally linked to the EMP program.

The alternative air quality control strategies, to be developed through the planning process, will demonstrate achievement and maintenance of promulgated national ambient air quality standards.

Integration of air quality assessment within the overall Environmental Management impact assessment framework will be developed to achieve maximum "consistency" of regional environmental objectives. Such integration will ensure an overall impact assessment of all control strategies, including those developed primarily for air quality improvement.



Time frames for AQMP adoption and implementation will be coordinated with the 208 plan adoption and implementation schedules; an overall program objective is minimal delay from plan completion to adoption and minimal time separation between adoption and implementation of all individual management plans.

#### Residuals and Solid Waste

The residuals management (sewage sludge disposal) portion of sewage treatment facility plans will be made an integral part of the EMP.

The regional residuals management program to be carried out by the East Bay Municipal District and others will be formally linked with other EMP programs.

The Environmental Management program will evaluate existing and potential Class I sites as part of its investigation of regional management alternatives for hazardous wastes.

Coordination of local solid waste management planning and liaison with the State Solid Waste Management Board's Bay Area Solid Waste Management Project will be continued as part of the program.

Management agencies approved in county solid waste plans will participate in Environmental Management subregional management plan development.

#### Sewage Treatment Facility Plans (201)

Existing and proposed wastewater treatment (and transmission) facilities will be included in the Environmental Management Plan. The plan will include a determination, by service area, of the compatibility of such facilities with other EMP control measures.

A twenty-year priority project list for municipal facilities will be developed.

The EMP program shall seek to preserve the integrity of the 201 program's implementation timetable.

Projects scheduled to receive concept approval within the initial EMP period will be subject only to mitigation requirements established through grant contract conditions, not approval delays.

Treatment alternatives of 201 plans will not be considered during the two year planning period unless control measures for other than municipal point sources could logically make use of 201 facilities, as, for example, the off peak use of treatment plants to handle storm run-off stored in retention basins.

During the initial planning period, ABAG will participate in environmental impact report (EIR) work on 201 plans.

#### Coordination with Other Planning

Ongoing wastewater and water resources planning issues are to be addressed by EMP program management.

The EMP program will maintain a local plan review function inclusive of both multi- and single purpose plans.

Corps of Engineers Urban Studies Programs will be formally linked with the EMP program.

Special studies of critical areas, for example of Suisun Marsh and of coastal watershed lands, will be linked to EMP work.

The State Coastal Commission plans and policies will be used in the EMP program for those areas of the region within the Commission's jurisdiction.

The assimilative capacity of the region for air and water quality will eventually be reflected through the ABAG Urban Growth Management Program.

### PLAN PROCESS

#### Public Participation

The EMP program will provide for the design of continuing public participation in water quality, air quality and residuals management after the two year planning period as well as during it.

The program will develop means by which delegated management responsibilities of the EMP will be carried out in a manner which assures adequate public participation, inclusive, at least, of groups hardest hit by:

- (1) water quality and air quality problems, and
- (2) the costs of recommended control measures



Under the EMP program, capability of organizing public participation will be one of the criteria in identifying 208 management agencies.

The major portion of public participation during plan development will be decentralized and will be a program requirement of contracted work.

The work program design may be modified by public review and comment.

The scheduling of public participation, including adequate time for review of information, will be included in the development of the work plan.

Public involvement will begin at the outset of the program and be continuous throughout its duration with special emphasis at each of the planning milestones.

#### Interim Outputs

The quarterly progress reports required by EPA are not viewed as primary outputs.

Apart from satisfying EPA program guidelines, interim outputs must satisfy two objectives:

- a. Produce information needed for preliminary identification of the management agency or agencies, and the institutional/financial requirements of the continuing management plan (this includes requirements for plan adoption).
- b. Provide details of probable control measures and of a continuing planning process which will undergo public review.

#### Final Outputs

The Environmental Management Plan will not be designed as one document. Various parts of the EMP will be able to be used as separate entities.

The individual management plans which comprise the EMP shall each consist of control measures -- inclusive of near-term (five-year) control measures -- and the institutional, financial, and regulatory actions necessary to implement the control measures.

The EMP will include findings from studies of special biological problems such as the effect of Delta outflow on the Bay.

The EMP will include a report on the environmental, social and economic impact of carrying out the management programs.

The EMP will include a continuing planning program.

#### Emphasis on Near-Term Actions

Near-term actions are those water quality and air quality control measures both technically and institutionally achievable within five years of initiation of an adopted EMP.

Each management plan must identify near-term actions at the end of the first year of the planning period. They are a prime input to the development of the EMP and the continuing planning process.

The EMP program will provide means of testing near-term actions during year two of the planning period.

In identifying near-term actions, the first objective is to select those which support the credibility of the initial Environmental Management Plan by virtue of a high probability that they can be put into effect and show results.

Near-term actions will, as a priority, apply to currently developed areas and land utilization policies and related urban service decisions which are scheduled to be put into effect within the five years which follow adoption of the EMP.

The identification of near-term actions will extend to the identification of the governmental authority, financial and regulatory actions necessary to implement them.

As a means of minimizing delay in the application of controls within the first five years, EMP programs will be carried out where possible by the agencies that are likely to act together to implement control measures after adoption of the EMP.

#### Technical Emphasis of the EMP Program

A major objective of the EMP is to maximize the effectiveness of treatment systems through preventive measures, as, for example, the elimination of the illegal dumping of toxic wastes through sewers.



All EMP management plans will have supporting technical programs. Separate studies of special problems, as for example, of the impact of Delta outflow, will be undertaken.

All recommended control strategies must have an adequate technical basis for predicting their effects. Control measures not supported by regulatory or grant incentives must have extensive technical back-up.

### Assessment and Evaluation

Evaluation will be made of the EMP effectiveness as evidenced by achievement of desired improvements to air and water quality, and by means of a post plan monitoring system (i.e., the monitoring system is part of the plan assessment).

Assessment will include an evaluation of the economic and social impacts of alternative control strategies and the fiscal costs of implementing control measures.

Assessment tasks will be shared by regional and sub-regional agencies.

Assessment will document the relationship between development control and service capacities.

Assessment will determine the effectiveness of different development controls in preventing or reducing air and water pollution.

The assessment program will also develop assessment procedures which can be put into effect by other agencies as part of the continuing planning process.

### A Continuing Planning Process

The continuing planning process will include the application of governmental administrative functions capable of maintaining the coordinated application of air, water quality and solid waste control measures.

The continuing planning process will maintain an environmental management planning program capable of identifying new environmental problems, and new required control measures.

The continuing planning process will maintain an ongoing five year control program which will include provisions to conduct whatever financial planning is necessary for implementation.

The continuing planning process will be coordinated by a planning agency with authority to:

Monitor the implementation of the EMP and carry out updates of the Plan.

Recommend the designation of management agencies.

Conduct regional assessments of the social, environmental and economic effects of new control measures and other actions that can be described in terms that permit application of assessment techniques.

Maintain and monitor citizen participation processes for environmental management.

Maintain the region's eligibility for Federal or State grants for air or water quality improvement of solid waste disposal.

The continuing planning process will include a process for setting, reviewing and revising schedules for the improvement of air and water quality.

The continuing planning process will include a process for reviewing development policies which accomplish or negate the accomplishment of air and water quality objectives.

The continuing planning process will rely on efforts undertaken in the initial plan period to initiate the institutional momentum at the local level necessary to effect EMP control measures.



## PROBLEMS TO BE ADDRESSED

The three preliminary maps in the pouch at the back of this volume summarize water quality, air quality and solid waste problems to be addressed. The environmental management program will be directed at finding solutions to these problems.

The water quality map is based primarily on information from the Water Quality Control Plan for San Francisco Bay Basin prepared by the State Water Resources Control Board. The air quality map is based on information in publications of the California Air Resources Board, the Bay Area Air Pollution Control District, the Metropolitan Transportation Commission and ABAG. The solid waste map is based on the preliminary county solid waste plans and on studies by the State Department of Health.

The earlier discussion of the major products of the environmental management program included a discussion of environmental problems that will be addressed in a regional context. However, since most remaining water quality problems in the region are site specific, the following breakdown of water quality problems by county is provided.

### WATER QUALITY PROBLEMS IN ALAMEDA COUNTY

1. Regeneration of water softeners in Livermore Valley adds significant salts to potentially reclaimable water.
2. Periodic algal blooms due to high nutrient concentrations in Berkeley marsh.
3. Beneficial uses of Lake Merritt restricted due to bacterial contamination.
4. Combined wastewater and stormwater overflows and bypasses restrict beneficial uses of Bay (from EBMUD).
5. Shellfish harvesting south of Alameda Island prohibited due to high levels of bacterial and/or heavy metal contaminations.
6. Planning required for protection of groundwater supplies in Livermore Valley and Niles Cone.
7. Planning required for discharge from Leslie Salt operations at Hayward terminus of San Mateo Bridge.

#### WATER QUALITY PROBLEMS IN CONTRA COSTA COUNTY

1. Sediments high in toxic metals in San Pablo Bay off Pinole.
2. Shellfish harvesting in the Bay off Richmond prohibited due to high levels of bacterial and/or heavy metal contamination.
3. Significant annual fish kills in Carquinez Straits.
4. Degree of future treatment in Western Delta uncertain.
5. Periodic algal blooms due to high nutrient concentrations in Suisun Bay and Western Delta.

#### WATER QUALITY PROBLEMS IN MARIN COUNTY

1. Periodic algal blooms in rivers and streams due to high nutrient concentrations.
2. Runoff and dairy wastes in Marin and Sonoma enter Petaluma and Sonoma Rivers and their tributaries.
3. Shellfish harvesting prohibited in Northern San Francisco Bay and San Pablo Bay due to high levels of bacterial and/or heavy metal contamination.
4. Raw sewage discharged from houseboats into Richardson Bay.
5. Periodic algal blooms and bacterial contamination in Bolinas Lagoon.
6. Periodic algal blooms in Richardson Bay due to high nutrient concentrations.

#### WATER QUALITY PROBLEMS IN NAPA COUNTY

1. Septic tank runoff on Lake Hennesey watershed treatens water supplies.
2. Future treatment required for discharge to lower Napa River uncertain.
3. Periodic algal blooms in Napa River due to high nutrient concentrations.



#### WATER QUALITY PROBLEMS IN SAN MATEO COUNTY

1. Shellfish harvesting off Hunter's Point prohibited due to high levels of bacterial and/or heavy metal contamination.
2. Shellfish harvesting off San Mateo, Redwood City, Menlo Park prohibited due to high levels of bacterial and/or heavy metal contamination.
3. Runoff from septic tanks into Bear Gulch in the south coastal area threatens water supply of Menlo Park.
4. Planning required to protect coastal streams for possible future water supplies.
5. Logging practices in coastal San Mateo impact on beneficial water uses.

#### WATER QUALITY PROBLEMS IN SANTA CLARA COUNTY

1. Shellfish harvesting in the South Bay prohibited due to high levels of bacterial and/or heavy metal contamination.
2. Periodic algal blooms due to high nutrient concentrations in the South Bay.
3. Planning required for protection and improvement of ground-water supplies in Santa Clara Valley.
4. Almaden, Calero and Guadalupe Reservoirs closed to fishing because of mercury contamination.
5. Regeneration of water softeners in South Bay adds significant salts to potentially reclaimable water.

#### WATER QUALITY PROBLEMS IN SOLANO COUNTY

1. Future treatment for discharge to lower Napa River uncertain.
2. Periodic algal blooms in Napa River and Sonoma Creek due to high nutrient concentrations.
3. Significant annual fish kills in Carquinez Straits.
4. Runoff from copper slag heaps near Benicia enters Bay waters.
5. Assimilative capacity of Suisun Marsh unknown.
6. Periodic algal blooms in Suisun Bay and Western Delta due to high nutrient concentrations.

## WATER QUALITY PROBLEMS IN SONOMA COUNTY

1. Uncertainty of assimilative capacity of Sonoma Creek and future treatment levels.
2. Dairy wastes discharged into Petaluma River endanger domestic water supply.
3. Periodic algal blooms due to high nutrient concentrations in Petaluma River.



## THE CONTINUING PLANNING PROCESS

The primary purpose of the continuing planning process is to provide for the ongoing development of the Environmental Management Plan. It is anticipated that this will be accomplished through annual updates of the Plan. The plan development activities begun in the two year planning period will be carried forward primarily through the regulatory and other implementing actions of the various management agencies designated as a consequence of preparing the Environmental Management Plan.

A designated agency will be responsible for developing the Environmental Management Plan and updating it. This will be accomplished primarily through monitoring progress in applying control measures, in meeting targets for air and water quality improvements and through the application of assessment procedures both by the planning agency and designated management agencies.

By means of the monitoring program, the planning agency will identify new problems inclusive of difficulties or delays which have been encountered by management agencies in applying and carrying out control measures required by the Plan. Through the identification of such difficulties, revisions to the Environmental Management Plan will be developed and introduced as annual revisions.

Proposed revisions may take several forms within the continuing planning process. They may be:

1. New designations of management agencies.
2. New, or altered, regulatory requirements.
3. New, or altered, assessment procedures.
4. Revisions to listings of required control measures, or to priorities established for their implementation.
5. The development, financing and scheduling of new programs.
6. The development of new special studies.

In addition to effecting changes in the Environmental Management Plan, the continuing planning process will also provide guidance to revisions made to the Basin Plan, the Air Resources Board State Implementation Plan and the annual strategy statements prepared by the State Water Resources Control Board. The continuing planning process will also respond to conditions which have been made as part of the State Water Resource Control Board certification program and to new requirements established by the Environmental Protection Agency.



## ORGANIZATION FOR PREPARING THE PLAN

The figure at the end of this section shows the organization for preparing the plan and comment, certification, and approval process. The certification and approval process for the water quality parts of the plan is set forth by law or by well-established practice. For the air quality parts, the certification and approval process is not firmly established, but will probably follow the steps shown on Figure 5. The approval process for the solid waste parts of the plan will be worked out during the preparation of the plan.

### ENVIRONMENTAL PROTECTION AGENCY

EPA will approve the plan after it has been certified by the State Water Resources Control Board (the governor's agent for certification of the water quality aspects) and the State Air Resources Board. The plan will then become the basis for EPA action in the region. EPA action will include distributing construction grants for publicly owned wastewater treatment works.

### STATE WATER RESOURCES CONTROL BOARD AND REGIONAL WATER QUALITY CONTROL BOARD

The State Board is the governor's certifying agent for the water quality management parts of the Environmental Management Plan. Typically, the State Board requires that the Water Quality Control Board for the San Francisco Bay Region adopt the plan before the State Board certifies it.

### STATE AIR RESOURCES BOARD

The State Air Resources Board must certify the Air Quality Maintenance Plan (AQMP) before it is approved by EPA. The AQMP will become part of the State Implementation Plan (SIP) for air quality.



## ABAG EXECUTIVE BOARD AND REGIONAL PLANNING COMMITTEE

The Executive Board and the Regional Planning Committee will approve the Environmental Management Plan as an element of the Regional Comprehensive Plan. Also, agencies farther up the certification and approval hierarchy will probably require ABAG Executive Board adoption before they act.

## METROPOLITAN TRANSPORTATION COMMISSION AND BAY AREA AIR POLLUTION CONTROL DISTRICT

MTC is responsible for the transportation element of the Regional Comprehensive Plan. This element is closely related to the Air Quality Maintenance Plan. BAAPCD will be one of the implementing agencies for the AQMP. The air quality aspects of the Environmental Management Plan must be reviewed by both agencies before it is adopted by the State Air Resources Board.

## ENVIRONMENTAL MANAGEMENT TASK FORCE

This is the key policy-making body for the preparation of the Environmental Management Plan. The composition of the task force is shown at the end of this section. The task force includes representatives from cities and counties, citizen groups, and special interest groups. It was charged by the EPA regional administrator with the responsibility for preparing the Environmental Management Plan (copies of this charge are available on request from ABAG).

## ABAG STAFF

Key ABAG staff members will manage the plan on a day-to-day basis under the direction of the Environmental Management Task Force. Technical staff will do much of the work of preparing the plan.

## PROGRAM REVIEW BOARD

This group of representatives of five key agencies will provide ABAG with guidance on State and Federal policies so that an Environmental Management Plan is developed that is consistent with these policies.

## ADVISORY COMMITTEES

These committees will advise ABAG management staff on technical matters. The committees will include persons with technical expertise from public agencies, citizen groups, and others.

## LEAD AGENCIES IN THE COUNTIES

Each county will have a lead agency or group of agencies responsible for the work performed in the county under contract to ABAG. The role of local agencies in preparing the plan will be discussed in another section of this document.

## OTHER AGENCIES IN THE COUNTY

These agencies will provide support to the lead agency or agencies.

## OTHER REGIONAL, STATE, AND FEDERAL AGENCIES

The plan will be prepared with the cooperation of other agencies. The Corps of Engineers is studying the effect and control of surface runoff. These and other Corps studies will be coordinated with the preparation of this plan. Staff support will be provided by EPA, the Bay Area Air Pollution Control District, the Regional Water Quality Control Board, the State Water Resources Control Board, and the Bay Area Sewage Services Agency. The U. S. Geological Survey is conducting data collection and analysis programs that will be coordinated with the plan preparation. The Bay Conservation and Development Commission will provide data and advice. The Metropolitan Transportation Commission will assist in transportation and air quality analysis. The Residuals Study Group (East Bay Municipal Utilities District, the City of San Jose, the City of San Francisco, Central Contra Costa Sanitary District, and BASSA) will prepare a regional residuals plan.

## CONSULTANTS

ABAG and local agencies will use consultants either to prepare management plans or to provide specialized technical services in support of the preparation of the Environmental Management Plan.

## CITIZEN PARTICIPATION PROGRAM

The Citizen Participation Program is discussed elsewhere in this summary. The program will function at the local and regional levels to prescribe and comment on the preparation of the Environmental Management Plan.



## ENVIRONMENTAL MANAGEMENT TASK FORCE

### I. Local Government Representation

#### A. Cities in Counties

1. Alameda County Cities  
Mayor Jack Maltester
2. Contra Costa County Cities  
Councilman Thomas Corcoran
3. Marin County Cities  
Councilwoman Sherry Levit
4. Napa County Cities  
Councilperson Dorothy Searcy
5. San Francisco, City of  
To be announced
6. San Mateo County Cities  
Vice Mayor William Hardwick
7. Santa Clara County Cities  
Councilwoman Ruth H. Koehler
8. Solano County Cities  
A. Councilman Rod Boschee  
B. Vice Mayor William Jenkins
9. Sonoma County Cities  
A. Mayor Herbert E. Lukas  
B. To be announced

#### B. Counties

1. Alameda County  
Supervisor Fred Cooper
2. Contra Costa County  
Supervisor James Moriarty
3. Marin County  
Supervisor Thomas Price
4. Napa County  
Supervisor John Tuteur (EMTF Vice Chairperson)
5. San Francisco County  
Supervisor Dianne Feinstein (EMTF Chairperson)

B. Counties

6. San Mateo County  
Supervisor Jean Fassler
7. Santa Clara County  
Supervisor Dan McCorquodale

C. City of Oakland, San Francisco, San Jose

1. City of Oakland  
Vice Mayor George Vukasin
2. City of San Francisco  
Office of the Mayor  
Charles Forrester
3. City of San Jose  
Mayor Janet Gray Hayes

II. Regional Agency Representation

1. Bay Area Air Pollution Control District  
Councilman William Jelavich
2. Central Coast - Regional Coastal Zone Conservation  
Commission  
Mayor Ilene Weinreb
3. East Bay Municipal Utility District  
Helen Burke
4. Metropolitan Transportation Commission  
Vice Mayor Richard LaPointe
5. North Central Coast - Regional Coastal Zone Conser-  
vation Commission  
Mayor Lenard Grote
6. Regional Water Quality Control Board  
Councilman Audrey Fisher
7. San Francisco Bay Conservation and Development  
Commission  
Commissioner Marcella Jacobson
8. Bay Area Sewage Services Agency  
Mayor Ralph Bolin

III. Special Interest Representation

1. Associated Building Industry of Northern California  
(Housing)  
William T. Leonard

### III. Special Interest Representation

2. Bay Area Council (Business)  
Paul O. Reimer
3. Contra Costa Building and Construction Trades Council  
(Housing Construction)  
Peter J. Fearey
4. League of Women Voters of the Bay Area (Public Interest)  
Mrs. Stana Hearne
5. Lung Association (Citizen Group for Air Quality)  
William Moore
6. Midpeninsula Citizens for Fair Housing (Fair Housing)  
Kathy Berson
7. San Francisco Bay Chapter Oceanic Society (Citizen  
Group for Water Quality)  
Dr. Michael J. Herz
8. Sierra Club (General Environmental)  
Bob Rutemoeller
9. La Confederacion de la Raza (Non-Urban Minorities)  
Lila Gonzales
10. Santa Clara County Farm Bureau (Agriculture)  
Carl Voss
11. Labor  
To be announced
12. Urban Minorities  
To be announced
13. Senior Citizens  
To be announced

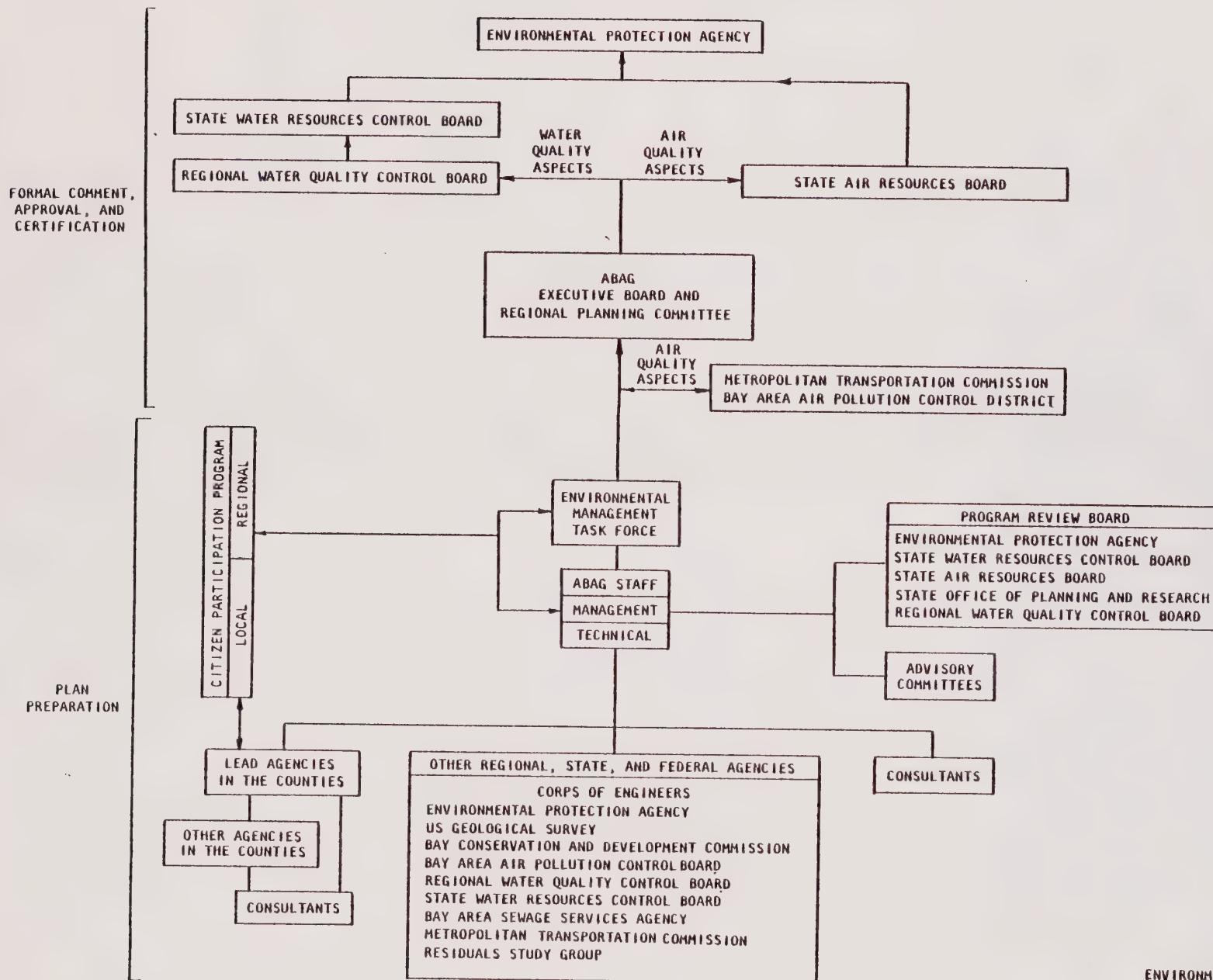
### IV. State Legislators

1. Senator Jerome Smith  
Santa Clara County
2. To be announced



PROGRAM REVIEW BOARD

1. Louis P. Martini  
(Regional Water Quality Control Board)
2. W. Don Maugham  
(State Water Resources Control Board)
3. Mary Nichols  
(State Air Resources Board)
4. Bill Press  
(State Office of Planning and Research)
5. Sheila M. Prindiville  
(Environmental Protection Agency)

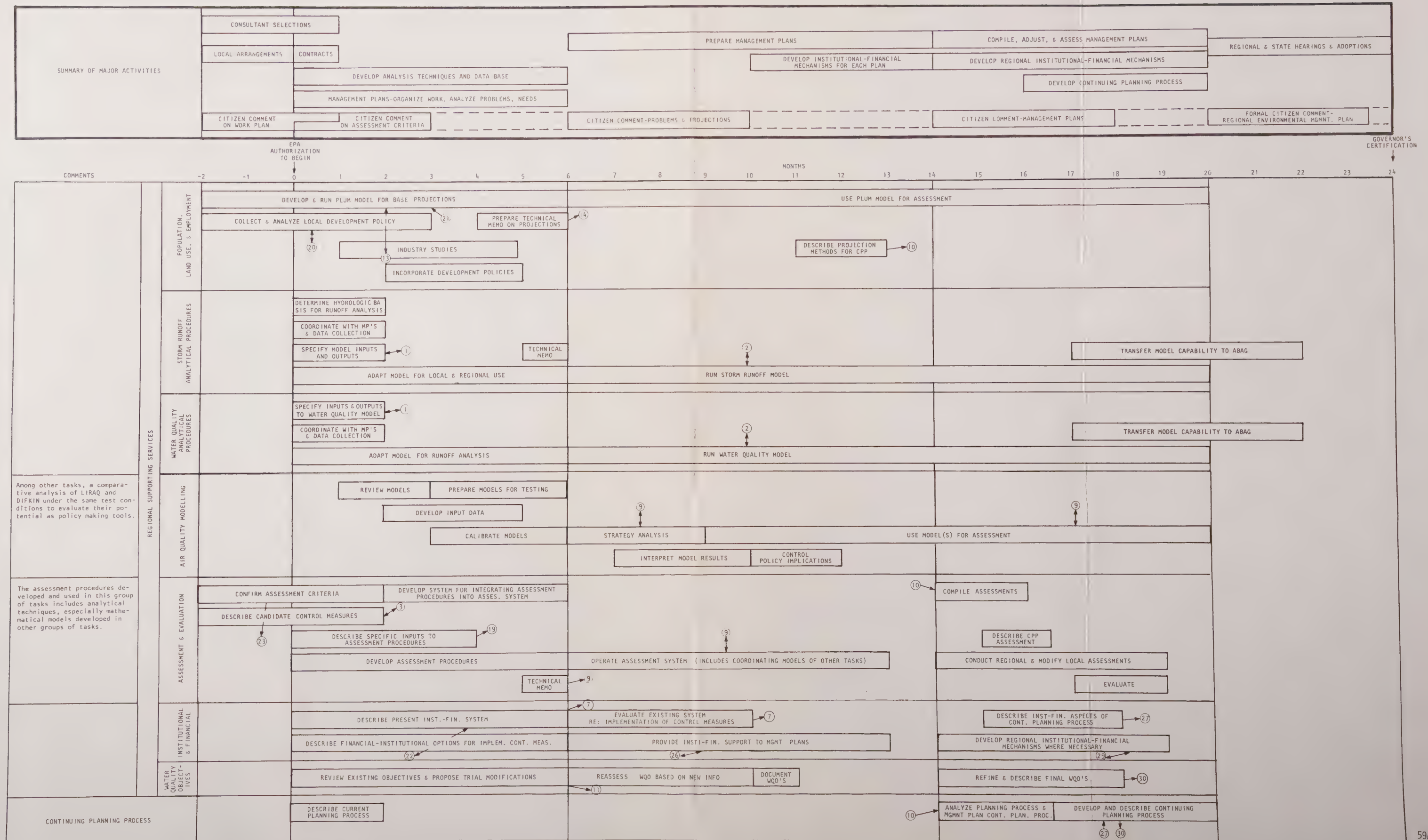


## TASKS AND SCHEDULING

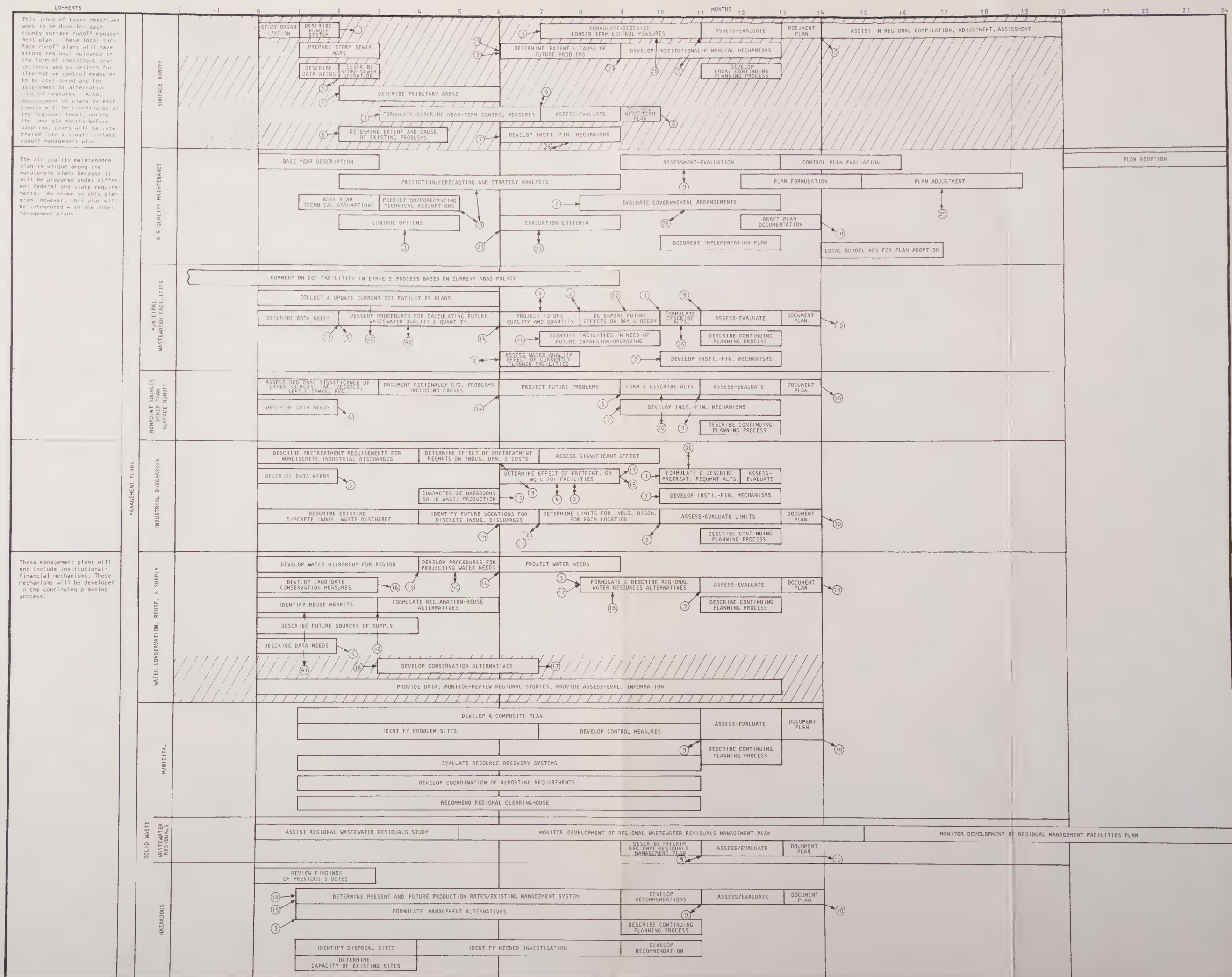
The major tasks and their schedules are shown on the following pages. Each major task and groups of major tasks are identified. This task breakdown and the task descriptions in the next section will be refined as detailed scopes of work are developed within ABAG or between ABAG and other agencies or consultants. These tasks should therefore be viewed as indicative of the major types of work to be done and of the significant relationships between tasks.



WORK PROGRAM OVERVIEW  
FOR PREPARATION OF THE  
ENVIRONMENTAL MANAGEMENT PLAN  
FOR  
SAN FRANCISCO BAY REGION  
Association of Bay Area Governments

















## SUMMARY OF MAJOR ACTIVITIES

On the following pages, general descriptions are provided for each of the major activities needed to prepare the Environmental Management Plan. These descriptions are keyed to the tasks as shown at the top of the Work Plan Overview.

ACTIVITY: Consultant selection

PURPOSE: This major activity involves the development of procedure for and the actual selection of consultants by ABAG. Consultant selections will be made prior to EPA authorization to begin work. ABAG will attempt to get early approval on some work items so that consultant selection can begin early.

ACTIVITY: Local arrangements

PURPOSE: This major activity involves discussions and written negotiations with local agencies that will be receiving funds from ABAG. The goal of this activity is to arrive at as definitive agreements as possible by the time the work plan is approved by EPA.

ACTIVITY: Contracts

PURPOSE: The purpose of this major activity is to execute the contracts that have been negotiated in the previous activities. This should be completed within one month after EPA authorization to begin. This is a critical item of work; any delays are likely to result in successive program delays.

ACTIVITY: Develop analysis techniques and data base

PURPOSE: The purpose of this major activity is to develop the analysis technique and data base that will be used in the two year and continuing planning processes. The data base involves the compilation of existing data, collection of new data, and the development and implementation of a system to provide ready access to all such data. This activity will also develop the analysis technique such as population projections and assessment procedures to be used to assess the impacts of proposed control measures at both the local and regional levels. It also involves the development of technical support services.

ACTIVITY: Management plans--organize work; analyze problems, needs

PURPOSE: The purpose of this activity is to get the development of management plans underway expeditiously. This activity will involve coordination by ABAG with respect to the types of control measures to be considered and the specific format or information to be developed to establish consistency between management plans and regional technical supporting services.

ACTIVITY: Citizen comment on work plan

PURPOSE: This activity represents the first major impact the citizen participation program will have on the conduct of the work. This phase of the citizen participation program involves the collection of comments by citizens on the work plan and agency modification of the work plan in response to these comments.

ACTIVITY: Citizen comment on assessment criteria

PURPOSE: The purpose of this major activity is to collect citizen responses on the assessment criteria. A candidate list of these criteria will have been developed for comment. The assessment criteria are those things that citizens and their elected representatives would like to know about control measures in order to make decisions concerning implementation.

ACTIVITY: Prepare management plans

PURPOSE: The purpose of this major activity is to prepare the management plans, including one separate management plan for surface runoff for each of the Bay Area counties exclusive of San Francisco, which already has a comprehensive surface runoff plan. The plans will be based on regionally consistent information developed by ABAG. The plans will consider the same sorts of control measures and will screen, assess, and evaluate these control measures or groups of control measures in accordance with regionally consistent procedures developed by ABAG.

ACTIVITY: Citizen comment on problems and projections

PURPOSE: This is the third phase of the citizen participation program, in which citizens will be given an opportunity to comment on basic projections and on preliminary analyses of problems. The projections will be the regionally consistent projections, especially those on land use, population, and employment, developed by ABAG. Preliminary information on problems will have been developed in each of the management plans.



ACTIVITY: Develop institutional, financial mechanisms for each plan

PURPOSE: The purpose of this major activity is to develop the institutional and financial techniques necessary to implement the control measures of each of the management plans. This activity will also be based on criteria developed at the regional level.

ACTIVITY: Compile, adjust, and assess management plans

PURPOSE: This is a regional activity in which each of the fourteen management plans (there are seven management plans; the management plan for surface runoff will be developed at the county level for each county except San Francisco, resulting in a total of fourteen) will be put together, inconsistencies will be resolved and the plans and selected alternatives will be assessed at the regional level. In addition, local assessments will be compiled. The result of this activity will be a draft environmental management plan, comprised of the seven integrated management plans or sub elements.

ACTIVITY: Develop regional institutional financial mechanisms

PURPOSE: The purpose of this activity will first be to examine the institutional and financial mechanisms for each of the management plans and to determine whether regional approaches would be appropriate. If it is determined that they are appropriate, this activity will develop those regional institutional/financial approaches.

ACTIVITY: Develop continuing planning process

PURPOSE: The purpose of this activity is to examine the continuing planning process recommended in the development of each management plan and to assess various planning techniques, both technical and institutional, that were used during the preparation of the environmental management plan. Based on this information, determination will be made as to what sets of actions should comprise the continuing planning process.

ACTIVITY: Citizen comment on management plans

PURPOSE: This is the fourth phase of the citizen participation program. Citizens will be asked to comment on the fourteen management plans described previously. Citizen comments will be incorporated in the activity concerning the compilation and adjustment of the management plans.



ACTIVITY: Regional and state hearings and adoptions

PURPOSE: This major activity consists of the formal hearings and adoptions first by regional and then by state agencies. The section of this work program on plan organization shows the anticipated approval hierarchy.

ACTIVITY: Formal citizen comment on regional  
environmental management plan

PURPOSE: This is the last stage of public comments during the preparation of the environmental management plan. It consists of formal comment by citizens or citizen groups at the regional and then the state formal hearings on the draft, environmental management plan. These comments will be noted, and responses will be prepared. The final environmental management plan will consist then of the draft plan, the formal comments on the draft plan, and the responses to those comments, which in many cases will involve modification of certain aspects of the draft environmental management plan. Citizen participation will be ongoing and will be an essential element of the continuing planning process.

## TASK DESCRIPTIONS

This section consists of descriptions of each of the tasks identified on the task schedule chart in a preceding section. Each task is described with respect to the following:

- . Task name
- . Purpose of the task
- . Inputs to the task
- . Major products or events
- . Method of completing the task
- . Coordination requirements with other tasks or other work
- . Budget

The tasks are grouped as shown on the task schedule chart.

## MANAGEMENT PLANS

This section describes the preparation of seven management plans listed below:

- . Surface runoff
- . Air quality maintenance
- . Municipal wastewater facilities
- . Nonpoint sources other than surface runoff
- . Industrial discharges
- . Water conservation, reuse, and supply
- . Solid waste management

Each management plan, when completed, will consist of control measures and the institutional and financial mechanisms necessary to implement the control measures. The institutional-financial mechanisms for the last two management plans--water conservation, reuse, and supply and solid waste--will not be developed in this program, but will be addressed in the continuing planning process.

It should be noted that the preparation of these management plans will be based on ground rules and projections developed for the region by ABAG. The plans will be developed with considerable institutional and financial assistance from ABAG. During the last year of the two-year planning program, these management plans will be integrated by ABAG into an Environmental Management Plan for the region consisting of the above listed seven elements.



## SURFACE RUNOFF

This management plan is concerned with pollution caused by storm water runoff from urban and rural areas. Each of the Bay Area counties will prepare a surface runoff management plan, with the exception of San Francisco, which has already developed such a plan.

Near-term control measures will be included in the plan to mitigate existing problems. Longer-term control measures will also be developed. These countywide plans will be integrated into a single regional surface runoff management plan. The regional plan will, however, be more than just a compilation of the countywide plans. It will be based on regionally consistent projections, consider a wide spectrum of alternatives, and assess and evaluate these alternatives from a regional perspective.

TASK: Study organization.

PURPOSE: The purpose of this task is to prepare detailed work plans for each of the surface runoff management plans to be prepared in each county. These plans will be integrated into a single regional surface runoff management plan.

RESPONSIBILITY: ABAG, local agencies.

START AND COMPLETION DATE: Month 0 to month 1.

INPUTS: Environmental Management Work Program.

MAJOR PRODUCTS AND EVENTS: A detailed work program outline and plan outline for use by local agencies in preparing local surface runoff plans. The outline would include:

- standard data requirements (population, land use, hydrologic),

- control strategies to be considered

- pollutants to be assessed

- format of plans

- financial, institutional issues to be resolved

- assessment methods to be used.

ABAG will contract with local agencies for this work.

METHOD: Review of previous surfacing runoff planning efforts including those of ABAG in Sonoma County and the Corps of Engineers.

COORDINATION REQUIREMENTS: Surface Runoff Modeling, Water Quality Modeling, and Study Management and Administration tasks.

BUDGET: \$1,100 (average amount for each county, to be adjusted).

TASK: Describe Runoff Systems.

PURPOSE: The purpose of this task is to describe the system of streams, major storm sewers, and other waterways that constitute the means by which surface runoff travels to the Bay or the ocean.

RESPONSIBILITY: Local agencies.

START AND COMPLETION DATE: Month 1 to month 2.

INPUTS: ABAG will provide a standardized system of mapping and map annotation for the description of the surface runoff system.

MAJOR PRODUCTS AND EVENTS: Each designated agency will prepare, to ABAG specifications a description of:

the streams and waterways (i.e., total channel length, width, depth, roughness conditions); and

major storm sewers or channels (i.e., pipe size, class, length, roughness; invert elevations; location of inlets, diversions and overflows; operating rules for pumps, weirs and in or off-line storage basins).

METHOD: Obtain storm sewer information from public works departments or special districts. Field surveys may be necessary for description of waterways based on a selected sample of tributaries.

COORDINATION REQUIREMENTS: With surface runoff analytical procedures and local citizen participation tasks.

BUDGET: \$1,200 (average amount for each county, to be adjusted).



TASK: Prepare Storm Sewer Maps.

PURPOSE: The purpose of this task is to prepare for each storm sewer system a set of maps showing the major storm sewers and describing their operation.

RESPONSIBILITY: Local designated runoff planning agencies.

START AND COMPLETION DATE: Month 2 to month 3.

INPUTS: Data from storm sewer agencies.

MAJOR PRODUCTS AND EVENTS: Series of annotated maps prepared at predetermined scale and appearance showing storm sewers. Annotated text indicating site specific operation of storm sewers.

METHOD: Review, update and translate present storm sewer maps to ABAG specifications. Drafting of maps is conducted by designated agencies.

COORDINATION REQUIREMENTS: Task on description of surface runoff system.

BUDGET: \$1,100 (average amount for each county, to be adjusted).

TASK: Describe Data Needs.

PURPOSE: The purpose of this task is to describe any needs for the collection and analysis of new data.

RESPONSIBILITY: Designated runoff planning agencies.

START AND COMPLETION DATE: Month 1 to month 2.

INPUT: None.

MAJOR PRODUCTS AND EVENTS: Define data, other than that for runoff drainage systems, necessary for runoff modeling. Such definition would include specific data sources, measurement standards, and methods of data collection and verification. Data requirements would include:

Pollutants - sampling of wet and dry weather flows in tributaries and receiving waters as well as various locations in the storm sewer system,

Imperviousness of various land uses based on surface compaction, code requirements, type, location and age of land use.

METHOD: Review of previous surface runoff planning efforts.

COORDINATION REQUIREMENTS: Surface Runoff Modeling, Water Quality Data Collection, Water Quality Modeling, Population and Land Use Modeling tasks.

BUDGET: \$1,200 (average amount for each county, to be adjusted).

TASK: Describe Storm Sewer Operation.

PURPOSE: The purpose of this task is to prepare a description of the operation of the storm sewer system, including those operations that have a direct effect on storm sewer flows or quality, such as street sweeping programs. This description should also include the operation and diversions in the system.

RESPONSIBILITY: Local (county) agencies.

START AND COMPLETION DATE: Month 2 to month 3.

INPUTS: List of operations (which may be expanded) which affect storm sewer flows or quality.

MAJOR PRODUCTS AND EVENTS: Written description of the operation of each storm sewer include:

- Maintenance and frequency of such maintenance
- Pumping
- Detention
- Treatment
- Overflow to wastewater system.

The description should also indicate street cleaning practices including type and frequency. Information of measures flows for specific storms should be included if available including points of discharge and quantities.

METHOD: Reports produced by and discussion with storm sewer operators.

COORDINATION REQUIREMENTS: Stormwater Modeling, Water Quality Data Collection tasks.

BUDGET: \$ 1,200 (average amount for each county, to be adjusted).



TASK: Determine Extent and Cause of Existing Problems.

PURPOSE: The purpose of this task is to analyze the existing problems and the cause of these problems related to surface runoff.

RESPONSIBILITY: Local (county) agencies.

START AND COMPLETION DATE: Month 2 to month 4.5.

INPUTS: Water Quality Data Collection, Stormwater Runoff Analytical Procedures, local, consultant, and ABAG expertise.

MAJOR PRODUCTS AND EVENTS: A document is to be produced listing water quality violations in, or caused by activity in each county. An assessment is to be made of the contribution of surface runoff to these violations.

METHOD: Guidance may be provided by ABAG and other agencies, e.g., Corps of Engineers. This list will be input to the next tasks, and may be continually refined as the analysis tools (models, experience) are developed by ABAG and other agencies, to enable more thorough analysis.

COORDINATION: Water Quality Data Collection tasks.

BUDGET: \$2,900 (average amount for each county, to be adjusted).

TASK: Describe Tributary Areas.

PURPOSE: The purpose of this task is to describe catchment basins.

RESPONSIBILITY: Local designated runoff planning agencies.

START AND COMPLETION DATE: Month 2 to month 6.

INPUTS: Surface Runoff Analytical Procedures.

MAJOR PRODUCTS AND EVENTS: The description will include maps and computer data files of:

- hydrologic sub-areas - slope, land use, overland flow path,

- soil infiltration rates,

- land use - residential (varying densities), commercial, industrial, agriculture (including varying land practices) open space, institutional, highways and roads, wetlands.

METHOD: Review of U.S.G.S. maps, S.C.S. Soil Survey maps, existing and proposed land use maps.

COORDINATION REQUIREMENTS: Surface Runoff and Water Quality Analytical Procedures, Land Use Model, other Study Management and Administration Tasks.

BUDGET: \$6,100 (average amount for each county, to be adjusted).

TASK: Formulate and Describe Near-Term Control Measures.

PURPOSE: The purpose of this task is to formulate and describe control measures that can be implemented within five years for the control of pollution of the Bay or the ocean by surface runoff.

RESPONSIBILITY: Local agencies.

START AND COMPLETION DATE: Month 3 to month 7.

INPUTS: ABAG list of control measures; problem evaluation from previous task.

MAJOR PRODUCTS AND EVENTS: A list of near-term control measures shall be produced that can be used to abate the existing surface runoff-caused water quality problems.

COORDINATION: Previous task: Determination of existing problems ABAG list of control measures.

BUDGET: \$9,800 (average amount for each county, to be adjusted).



TASK: Determine Extent and Cause of Future Problems.

PURPOSE: The purpose of this task will be to analyze future problems caused by surface runoff.

RESPONSIBILITY: Local designated runoff planning agencies.

START AND COMPLETION DATE: Month 6 to month 9.

INPUT: Storm Water and Water Quality Analytical Procedures, Discrete industrial discharges, municipal wastewater discharges.

MAJOR PRODUCTS AND EVENTS: A series of future growth/land use controls will be tested to determine the magnitude of water quality problems that would result. Such tests would study future general plan or zoning land use controls to determine their relative contribution to water quality standards. The point contribution from discrete industrial discharges and inadequate wastewater facilities would also be tested.

METHOD: Use of Surface Runoff Analytical Procedures.

COORDINATION REQUIREMENTS: Surface Runoff Analytical Procedures, Municipal Wastewater facilities, Industrial discharges tasks.

BUDGET: \$3,700 (average amount for each county, to be adjusted).

TASK: Assess and Evaluate Near-Term Control Measures.

PURPOSE: The purpose of this task is to evaluate all of the impacts of the proposed control measures.

RESPONSIBILITY: Local (county) agencies.

START AND COMPLETION DATE: Month 7 to month 9.

INPUTS: List of Assessment areas from ABAG.

OUTPUTS: Assessments with respect to criteria provided by ABAG, which will include: Fiscal impact, social impact, air quality impact, and others.

METHOD: Use assessment procedures provided by ABAG. This must be done for all alternative groups of control strategies proposal, and the groups evaluated in terms of relative acceptability to the county.

COORDINATION REQUIREMENTS: This task must be coordinated with the task "Develop Institutional Fiscal Mechanisms," and with Citizen Participation tasks.

BUDGET: \$6,100 (average amount for each county, to be adjusted).

TASK: Document Near-Term Surface Runoff Control Measures.

PURPOSE: The purpose is to bring together all the elements on the near-term control measures (problems, suggested measures, financing, governmental requirements, new laws, etc) and make alterations as required by the assessment/evaluation and Task Force/citizen input.

RESPONSIBILITY: Agency designated runoff planning agencies.

START AND COMPLETION DATE: Month 9 to month 10.

INPUTS: Near-term Control Measures, Assessment, Institutional/Financial mechanisms.

MAJOR PRODUCTS AND EVENTS: A draft plan with text and maps which puts forward the near-term plan for control of surface runoff from each sub-region. Such a document would include adjustments made on earlier task products based on recommendations provided in the assessment task.

METHODS: Review of assessment recommendations, previous plan components and Task Force/citizen input.

COORDINATION REQUIREMENTS: Analyze Planning Process and Management Plan, Continuing Planning Process tasks.

BUDGET: \$2,300 (average amount for each county, to be adjusted).



TASK: Develop Insitutional-Financial Near-Term Mechanisms.

PURPOSE: The purpose of this task will be to determine the legal and financial mechanisms for near-term surface runoff pollution control including their governmental and cost implications.

RESPONSIBILITY: ABAG and local designated runoff planning agencies.

START AND COMPLETION DATE: Month 6 to month 9.

INPUTS: Insitutional/Financial Technical Memo produced by ABAG.

MAJOR PRODUCTS AND EVENTS: Text and maps where necessary indicating near-term legal mechanisms (ordinances, joint agreements, resolutions, standards, etc.) and the use of new or existing financing methods (fees, bonds, zoning conditions) to assist the implementation of near-term surface runoff control. The text should include necessary intra- and intergovernmental relationships.

METHOD: Local review of these financial and institutional mechanisms provided in the ABAG technical memo, those provided in other planning/engineering literature, and that originated by the local planning agencies.

COORDINATION REQUIREMENTS: Assessment of Near-Term surface runoff mechanisms, Regional Institutional and Citizen Participation tasks.

BUDGET: \$6,500 (average amount for each county, to be adjusted).

TASK: Formulate and Describe Long Term Control Measures.

PURPOSE: The purpose of this task will be to determine the amount of type of long-term surface runoff control measures.

RESPONSIBILITY: Local designated surface runoff planning agencies.

START AND COMPLETION DATE: Month 7 to month 11.

INPUTS: Description of candidate control measures task by ABAG, Institutional/financial support to management plans.

MAJOR PRODUCTS AND EVENTS: Text and maps as necessary to indicate the location, number, size of long-term structural and non-structural surface runoff control measures necessary to satisfy water quality control standards will be prepared. Structural measures could include storm detention, collection and treatment facilities. Non-structural would include planning, zoning, subdivision acquisition, permit and pricing controls. Such a product would be prepared for each designated sub-regional area.

METHOD: Local review of those candidate control mechanisms provided in an ABAG Technical memo, those provided in other planning/engineering literature, and those originated by the local planning agencies.

COORDINATION REQUIREMENTS: Assessment/evaluation of near-term control measures task.

BUDGET: \$11,000 (average amount for each county, to be adjusted).

TASK: Assess and Evaluate Long Term Control Measures for Control of Surface Runoff.

PURPOSE: The purpose of this task will be to assess the impact of the long-term control measures on social, economic, environmental, and governmental conditions. It would also assess its impact on other environmental management plans.

RESPONSIBILITY: Local designated surface runoff planning agencies.

START AND COMPLETION DATE: Month 11 to month 13.

INPUTS: Technical assessment memo by ABAG.

MAJOR PRODUCTS AND EVENTS: Text assessing the impact of the long-term control measures on those items required by the Technical Assessment Memo. Such text would include mitigating measures.

METHODS: Use of ABAG produced Assessment/Evaluation Memo and that assessment originated by the local planning agencies.

COORDINATION REQUIREMENTS: Technical Assessment Memo, Regional Adjustment and Assessment, and Citizen Participation tasks.

BUDGET: \$3,500 (average amount for each county, to be adjusted).



TASK: Document Long-Term Surface Runoff Control Measures Plan.

PURPOSE: The purpose is to bring together all the elements on the long-term control measures (problems, suggested measures, financing, governmental requirements, new laws, etc) and make alterations as required by the assessment and evaluation process including EMTF and citizen input.

RESPONSIBILITY: Local designated runoff planning agencies.

START AND COMPLETION DATE: Month 13 to month 14.

INPUTS: Long-term Control Measures, Assessment, Institutional and Financial mechanisms.

MAJOR PRODUCTS AND EVENTS: A draft plan with text and maps which puts forward the plan for control of surface runoff. Such a document would include adjustments made on earlier task products based on recommendations provided in the assessment task.

METHODS: Review of assessment recommendations previous plan components and Task Force/citizen input.

COORDINATION REQUIREMENTS: Analyze Planning Process and Management plan, Continuing Planning Process, Citizen Participation tasks.

BUDGET: \$2,3300 (average amount for each county, to be adjusted).

**TASK:** Assist in Regional Compilation, Adjustment and Assessment of Long-Term Surface Runoff Control Plan.

**PURPOSE:** The purpose of this task will be to assess and adjust the long-term surface runoff control measures as required to be integrated with other management and regional plans.

**RESPONSIBILITY:** Local designated surface runoff planning agencies.

**START AND COMPLETION DATE:** Month 14 to month 20.

**INPUTS:** Assessment and Evaluation, Surface Runoff Modeling, Water Quality Modeling.

**MAJOR PRODUCTS AND EVENTS:** Text and maps where necessary indicating:

assessment discussion (as provided in assessment format including cost, governmental capability, etc) and

adjustment measures necessary to bring local surface runoff plans into line with regional objectives and to other management plans.

**METHOD:** Review and integrate subregional plans into a regional runoff management plan. Determine compatibility between the runoff plan and the other regional management plans. Adjust runoff plan as necessary. Some further modeling may be required.

**COORDINATION:** Regional Plan Adjustment task.

**BUDGET:** \$6,600 (average amount for each county, to be adjusted).

TASK: Develop Institutional-Financial Long-Term Mechanisms.

PURPOSE: The purpose of this task will be to determine the legal and financial mechanisms for long-term surface runoff pollution control including their governmental and cost implications.

RESPONSIBILITY: ABAG and local designated runoff planning agencies.

START AND COMPLETION DATE: Month 9 to month 13.

INPUTS: Financial/Institutional Technical Memo.

MAJOR PRODUCTS AND EVENTS: Text indicating:

the alteration at existing or creation of new legal mechanisms (ordinances, joint agreements, etc) and

the use of new or existing financing methods (fees, C.I.P.) to assist the implementation of long-term surface runoff control. The text should include necessary intra- and intergovernmental relationships.

METHOD: Local review of those financial and institutional mechanisms provided in the ABAG technical memo, those provided in other planning/engineering literature, and those originated by the local planning agencies.

COORDINATION REQUIREMENTS: Assessment of Long-term surface runoff mechanisms, and Regional Institutional/Financial tasks.

BUDGET: \$8,400 (average amount for each county, to be adjusted).



## AIR QUALITY MAINTENANCE

The Air Quality Maintenance Plan work program is described in this section. It has been integrated with the other tasks in the work program as shown on the Work Program Overview, but still retains its integrity as described in this section.

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## INTRODUCTION

The air quality problems of the Bay Area are well documented and generally recognized by its inhabitants, as well as those local, regional, state, and federal agencies responsible for its control. While significant progress has been made towards controlling the sources of air pollutant emissions, ambient air quality continues to frequently exceed established air quality standards. Furthermore, projections estimate violations of these standards will continue into the foreseeable future given existing trends in land use development and population growth in the region.

Achievement of the national ambient air quality standards as required by the Clean Air Act of 1970 and State standards will necessitate even more controls than those currently in existence or scheduled for implementation. This portion of the work program is a part of the ongoing air quality planning activities directed towards attainment and maintenance of clean air for the Bay Area.

## BACKGROUND

In mid-1975, the CARB established the Bay Area Air Quality Maintenance Plan-Policy Task Force (AQMP-PTF)<sup>1</sup>, and initiated Phase I of the air quality maintenance planning process. The proposed two phase planning process is directed at development and implementation of an AQMP for the region.

Phase I is intended to identify the problems and develop a work program to direct the Phase II planning efforts. The more substantive and significant Phase II effort will be to develop a regional air quality strategy for achievement of the clean air objectives. Moreover, the results of Phase II are to serve as the region's response to federal requirements for an AQMP<sup>1</sup>.

With the formation of an environmental management task force (EMTF), composed of a diverse number of public and private representatives from the Bay Area, the AQMP-PTF adopted a resolution in its January, 1976 meeting which led to the integration of the 208 and AQMP planning programs.

"Resolved, that the Phase I Policy Task Force hereby transfers the responsibility for completing Phase I of an Air Quality Maintenance Plan, . . . to the Environmental Management Task Force, . . . and. . . upon acceptance of said responsibility by the Environmental Management Policy Task Force, the Phase I (AQMP) Policy Task Force will immediately cease to exist"

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<sup>1</sup>The AQMP-PTF is composed of thirty-five representatives of local and regional governments, in addition to a wide variety of other Bay Area interests -- conservation, business, industry, development, etc.



In addition to accepting responsibility to prepare an AQMP in its charge, the EMF formally resolved to accept all previous AQMP-PTF responsibilities at its second meeting.

The air quality portion of the work program which follows is intended to direct the Phase II air quality maintenance planning process. It will guide the preparation of a San Francisco Bay Area AQMP over the next two years. Much of this part of the work program is patterned after the initial AQMP-PTF efforts.<sup>2</sup>

## OBJECTIVES

The objectives of the AQMP are both numerous and ambitious. Some of the more important ones are embodied in the "Guiding Principles for the Environmental Management Plan Work Program." In summarizing the basic objectives of the AQMP program, the important points to be remembered are given below.

### Integrity of the AQMP

Numerous concerns have been voiced both publicly and privately that the integrity of the AQMP program would be lost or its relative importance severely diluted in a comprehensive environmental management program. To allay these concerns, a number of measures will be taken to ensure certain independent analyses of air quality problems. To date, development of the AQMP work program has been as an identifiable and integral component of the overall EMP work program. Throughout the conduct of the air quality work, a joint air quality planning team will focus on addressing the air quality issues. This team will coordinate with the other environmental staff to ensure internal consistency of the technical analysis. As the various plans are developed and strategies evaluated, it will be necessary for the various environmental staffs to work even closer to ensure that inter-media impacts have been adequately addressed and that the separate functional area control strategies can be coordinated and integrated to achieve the mandated environmental objectives. A real advantage to the proposed approach is the opportunity to bring the difficult environmental trade-off and decision-making process before a single policy-making body representative of the diverse regional interests. If nothing else, such a process will eliminate the frequent "after-the-fact" environmental bartering which takes place to argue against often needed environmental programs.

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<sup>1</sup>40 F. R. 49048

<sup>2</sup>Air Quality Maintenance Plan-Policy Task Force, "Preliminary Air Quality Maintenance Plan (AQMP) Work Program", January, 1976.

## Coordination of Regional Air Pollution Planning

A variety of air pollution planning activities are conducted in the Bay Area by different agencies. In addition to ABAG, the more active agencies are the EPA, CARB, MTC, and BAAPCD. To avoid duplication of these planning activities, the AQMP is designed to coordinate all air quality planning efforts and serve as a focal point for linking these efforts to the environmental management program. A means to assist in this coordination will be formation of a joint technical staff with representatives from the affected regional agencies. Memoranda of understanding are being prepared among the agencies participating in this joint technical team concept.<sup>1</sup>

## Achievement and Maintenance of Air Quality Standards

As required by the Clean Air Act of 1970, the alternative control strategies, to be developed through the planning process, will demonstrate achievement and maintenance of promulgated national and State ambient air quality standards. Due to pending changes in the Clean Air Act and the severity of the Bay Area's air pollution problems, the specific time tables for achievement of these standards is uncertain. An underlying premise of the AQMP will be development of strategies for achievement of standards as expeditiously as possible (considering economic, social and other environmental impacts) and maintenance of these standards thereafter. Stated differently, the air quality tradeoffs will center on implementation schedules or time tables as opposed to relaxing of the standards themselves.

## Integration of Air Quality Assessment

To date, the failure of many air quality planning proposals has been in part attributable to the narrowly conceived impact assessment conducted. Many programs have been proposed without a detailed and careful examination of the total impacts involved — economic, social, political, and environmental. This work program proposes integration of air quality assessment within the overall Environmental Management Plan impact assessment framework to achieve maximum consistency between regional environmental social and economic objectives. Such integration will ensure an overall assessment of all control strategies including those developed primarily for air quality improvement. It will also provide a mechanism for assessing important intermedia impacts.

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<sup>1</sup>Resolution adopted by the AQMP-PTF in January, 1976. "To facilitate the formation and support of this joint staff group, interagency arrangements such as memoranda of understanding. . . are encouraged".



## Time Frames for Adoption and Implementation

An important aspect of any plan development is timing. The diverse nature of environmental problems being addressed and controls to be proposed will require that plan adoption and implementation schedules to be coordinated. To facilitate this, time frames for AQMP adoption and implementation will be coordinated with the other management plans adoption and implementation schedules. An overall program objective is minimal delay from plan completion to adoption and minimal time separation between the adoption and implementation phase of all management plans. While the timing for adoption of the various management plans can be scheduled within certain limits, the implementation schedules will be spread over several years. In part, this is due to the many different controls likely to result from the program and the diversity of agencies responsible for the implementation of the controls.

Throughout, substantial efforts will be devoted to development of realistic and workable implementation programs. To aid local governments, procedure and/or guidelines for local and regional adoption of the AQMP will be prepared. Clearly, another major objective of the AQMP will be development of mechanisms for updating the AQMP within the Environmental Management Plan framework.

### PROCESS AND SCHEDULE

Development of any work program requires identification of tasks to be completed, the relationship between tasks, and constraints placed upon the program (e.g. time, budget). A useful first step in organizing the AQMP portion of the work program is conceptualizing a framework to identify key work elements to be undertaken. Exhibit 1 presents the "Framework for AQMP Work Program." This framework illustrates the proposed process and approximate time schedule for the AQMP portion of the total efforts. A more detailed task schedule is presented in a later section.

Each rectangle in Exhibit 1 represents a major work element. The bold arrows show how these work elements relate sequentially in a flow of activities. The thin (double-headed) arrows signify input and feedback among work elements. Stars have been used to note those work elements which are interfaced with other work elements of the overall work program.

The AQMP portion of the work program has five major components:

Description - Work elements which describe the past and present air quality conditions.

Prediction and Analysis - Work elements which forecast the air quality implications of future scenarios; these scenarios will range from alternative land use and transportation plans to a variety of specific control strategies.



Impact Assessment - Work elements which analyze the economic, social, and environmental impacts of the alternatives forecast previously.

Plan Formulation - Work elements which, based upon all the previous technical analyses, assist the decision-makers in formulating an AQMP for air quality improvement. Included in the plan formulation are tasks to develop and prepare an implementation program.

Plan Adoption - Work elements to disseminate the AQMP to the public and local governments; also, tasks to assist in the adoption and implementation programs as needed - guidelines, technical assistance, etc.

Implicit throughout the entire process is the assumption that public participation, intergovernmental coordination, and public information efforts will be undertaken. Furthermore, it is understood that the planning process does not start at time "zero," since it is currently ongoing, nor does it stop at two years when the program formally ends -- it is intended to be a continuous planning process. Lastly, the work elements as shown in the exhibit have been simplified for purposes of illustration. It is implicitly understood that many work elements will be done in an iterative fashion and feedback loops exist throughout the program.

#### INTEGRATION OF THE AQMP AND OTHER MANAGEMENT PLANS

The integration of air quality maintenance planning with other environmental programs occurs at many different places within the work program. The level or degree of integration varies considerably and may involve:

Coordination and information exchange

Interfacing of the technical analyses

Combining of similar tasks required of separate functional area programs

Throughout the conduct of the work program, the extent of integration will be dictated by several pragmatic concerns:

Operational efficiency

Avoidance of duplicating planning efforts

Consolidation of planning support services

Focused program and project management structure

Given the most ambitious attempts to fully integrate the environmental management programs, there are clearly work tasks which must be done separately for each functional area. Thus, although the extent of integration is influenced by "workable" program management concerns, the ultimate criterion for work tasks integration will be the requirement for sound technical analysis. It is neither the intent nor the philosophy of the program to use integration of the environmental plans to dilute the efforts of achieving each functional area's objectives. Instead, integration is seen as enhancing the opportunities for developing acceptable management plans. More specifically, development of an AQMP within the context of a regional Environmental Management Plan is seen as offering the greatest potential for ultimate AQMP adoption and implementation.

A description of how the various AQMP tasks will be integrated with the other environmental tasks is provided below. The discussions have been organized around the five major AQMP work program components.

#### Description

The description component consists of two work elements which deal with describing historical and present air quality conditions. Tasks in this portion of the work program will largely be done independent of other environmental tasks. The main exception is selection of the "base year" which needs to be coordinated with other management plans, primarily for purposes of facilitating data collection in a consistent manner.

#### Prediction and Analysis

Much of the input data required for forecasting future air quality requires close coordination with tasks developing alternative land use and transportation plans. Common data bases for population, land use, and other demographic statistics will form the basis upon which the environmental (including air quality) baseline conditions will be defined. In a similar fashion, future alternative land use and transportation scenarios will be projected for all environmental programs to consider. Thus, integration of this component will occur primarily thru specification of uniform baseline and future conditions. By and large, the translation of these conditions to environmental quality by functional area requires separate and independent analysis. For example, once the baseline and future conditions are defined, the air quality implications of the alternatives can be analyzed. The analyses may or may not be related to other media analyses. At a minimum, however, frequent information exchange is envisioned to provide overall direction and guidance to all the analysis tasks.



## Impact Assessment

The overall work program proposes a single impact assessment framework for all management plans to be developed. This assessment framework will address all environmental problems and involve both local and regional interests. The impacts to be analyzed will be social, economic, and environmental.

The evaluation criteria to be established will provide a common denominator upon which subsequent plans and proposed programs can be uniformly judged. All interested parties and potentially affected agencies will have an opportunity to provide input to the evaluation criteria to be used in the impact assessment process. With respect to achieving air quality objectives, it should again be noted that federal mandates do not permit "tradeoffs" in the attainment and maintenance of standards, but do allow flexibility in the time tables deemed necessary to accomplish the goals.

The overall assessment process will be a focal point for evaluating all impacts from the management plans developed. Thus, it serves as a focus for adjustments to management plans as may be required. This portion of the AQMP program will be fully integrated with the other management planning efforts.

## Plan Formulation

Following a fully integrated assessment process, the plan formulation component will focus mainly on air quality considerations. As other environmental strategies are formulated, a range of alternative AQMP strategies will likewise be evaluated. Coordination and information exchange between programs will be required but due to the diverse nature of problems being addressed, substantive integration of the separate plan formulation tasks is neither desirable nor readily accomplished. Even if certain control tactics or strategies were to be recommended to achieve multiple environmental goals, the AQMP will need to be prepared as a separate and distinct management plan to facilitate its subsequent submittal to and approved by the California Air Resources Board.

## Plan Adoption

Integration of the AQMP adoption process with other management plan adoption procedures is possible to a limited extent. At the local level an integrated adoption process will be utilized, with the Environmental Management Plan presented an element of the Regional Plan for review and adoption. At the regional level, single purpose agencies or special districts would be more likely to approve specified management plans. For example, it is anticipated the BAAPCD and MTC would approve the AQMP, due to their required involvement in air quality planning activities.



Throughout the planning process other tasks will be conducted in an integrated fashion. For example, it is envisioned the citizen participation, public information, and intergovernmental relations aspects of the various management plan programs will be conducted in an integrated manner. Lastly, internal project management and provision of necessary support services will be closely coordinated by ABAG in order to facilitate efficient and effective conduct of the study.

#### PARTICIPANTS/DIVISION OF AGENCY LABOR

As stated in the guiding principles of the program, the AQMP is to coordinate air quality planning activities for the region. Due to the divergent mandates and responsibilities of the agencies involved in air quality planning, the AQMP program requires active participation by a number of agencies. The AQMP program is envisioned as a cooperative planning effort with clear specification of agency labor and shared responsibility among those agencies involved.

To this end, the AQMP-PTF adapted a resolution encouraging formation of a "joint technical staff" to conduct development of the AQMP. To facilitate formation of such a team, memorandum of understanding or joint powers agreements were recommended. At a minimum, the joint technical staff was to be represented by ABAG, BAAPCD and MTC.

As part of the work programming efforts and in an attempt to further define the respective agency roles and level of involvement in development of an AQMP, discussions are underway with both BAAPCD and MTC:

BAAPCD - Work is underway to sign a Memorandum of Understanding for BAAPCD involvement in the environmental management program, and in particular, for active involvement in the AQMP.

MTC - Work is underway to renew the existing Interagency Agreement for cooperative planning efforts. The update would address MTC involvement in the environmental management program including the AQMP.

The basic philosophy behind the "joint technical staff" approach is to utilize the best available staff (irrespective of agency representation) and resources to undertake the AQMP preparation. The approach is designed to promote synergism by drawing upon a wide spectrum of technical and planning expertise. The involvement of key regional agencies in the planning process will also ensure that the respective agency interests are represented throughout.

Exhibit 2 illustrates by major work element which agencies are expected to participate. It should be noted that "participation" by agencies is intended to mean staff commitments to actively work on the various tasks as required.

#### COORDINATION OF ON-GOING AND OTHER RELEVANT STUDIES

Coordination of the AQMP portion of the work program with other relevant air quality studies is proposed to occur at three levels -- regional, state, and federal. With the formation of a joint technical staff, much of the coordination between ABAG, BAAPCD, and MTC is accomplished. Thus, access to relevant information, new data and other studies within each agency are directly accessible for the AQMP.

At the State level, coordination is achieved through the CARB-AQMP "basin team" which has an office in Oakland. Relevant air quality planning activities which require coordination are CARB supported studies, both in-house and under contract. New data, analytical procedures, or research findings which could bear on the development of an AQMP will be coordinated through the basin team. Similarly, the basin team will coordinate with other CARB basin teams in other California areas to convey significant findings which may assist or impact the Bay Area AQMP.

Federal coordination will be conducted with EPA-Region IX representatives. This coordination again entails staying abreast of in-house and contract research. As an example, last year several EPA sponsored studies examined Bay Area air pollution problems. Throughout the AQMP planning process, future studies will be coordinated with the joint technical staff to avoid duplication of efforts and consistency in technical analyses conducted. Relevant findings will be used in development of the AQMP as appropriate.

#### RESOURCES/ALLOCATION OF WORK EFFORTS

A number of factors preclude development of a detailed budget breakdown for the AQMP portion of the work program:

Details on the extent of interagency involvement have not been finalized between the BAAPCD and MTC. In part, this uncertainty centers around funding sources available to conduct their ongoing programs. Definition is required of what additional efforts are necessary on the part of these agencies in order to participate in the AQMP development.



As requested by the AQMP-PTF, separate funding is being sought to supplement the maximum resources currently available for AQMP development. If and when such funding becomes available, the budgets would be modified accordingly.

ABAG has committed limited amounts of other funds to the preparation of an AQMP (specifically 1/2 percent monies, section 28 carryover in a pass through from MTC).

Despite these uncertainties certain assumptions have been made with respect to the resources available and their allocation to the work efforts in the AQMP program. The budget breakdown is presented in Exhibit 3 by work element.

A tentative breakdown by participants in the AQMP preparation is given below. Also presented is the estimated level of involvement (professional person-months of effort).

<u>Agency</u>	<u>Budget (\$000)</u>	<u>Person-Months (Approximate)</u>
ABAG	\$350	140
BAAPCD <sup>1</sup>	125	60
MTC	75	30
Consultants	100	20
Local Governments <sup>2</sup>	-	-
TOTAL	<u>\$650</u>	<u>250</u>

The total of 290 professional person-months coincides with the budgets programmed by task in the "Work Elements and Major Products" section which follows.

The total budget assumed (\$650,000)<sup>3</sup> does not include limited participation by the BAAPCD and CARB under separate grants provided by EPA. Nor does it include limited efforts of MTC to ensure consistency of its Regional Transportation Plan (RTP) with environmental objectives, including air quality, as required by the Urban Mass Transportation Administration (UMTA) and Federal Highway Administration (FHWA). The cost of providing information generated as part of broader environmental management program is also not included. In this sense, the budget is conservative.

<sup>1</sup>Approximately \$100,000 allocated for direct staff support to the joint technical staff and \$25,000 for indirect costs and support services, e.g. computer costs.

<sup>2</sup>None allocated specifically for AQMP; involvement covered under general contract with cities and counties for participation in the entire environmental management program.

<sup>3</sup>Assume \$500,000 from Section 208-Federal Water Pollution Control Act and \$150,000 from 1/2 Percent, Section 28 Carryover (Pass through from MTC).



Also presented in Exhibit 3 is a more realistic, but optimistic budget allocation, assuming \$1.5 million. This budget is distributed differently than the \$650,000 effort, and places additional emphasis on more rigorous technical analysis, especially in the "Prediction/Forecasting and Strategy Analysis" and "Impact Assessment" work elements. It should be noted that the \$650,000 represents an estimate of the minimum resources required for preparation of an AQMP.

## WORK ELEMENTS AND MAJOR PRODUCTS

This section presents a summary of major work elements, detailed description of tasks and sub-tasks within each work element, and a listing of major products to be produced during the planning process. Also shown is a detailed activity flow chart illustrating how the various tasks are related to each other in the AQMP portion of the work program.

### MAJOR WORK ELEMENTS

Exhibit 4 displays the major work elements (each represented by a rectangle) within the AQMP work program framework. Within each work element are identified the tasks to be completed.

A brief description of the nomenclature used is warranted. In organizing the work program, a hierarchical approach has been used in specifying the various levels of detail. In order of increasing detail, the work program defines:

Components

Work Elements

Work Tasks

Sub-Tasks

Thus, the total work program is comprised of components, the components are made of work elements, etc. Exhibit 5 illustrates this hierarchy with a portion of the work program.

### MAJOR PRODUCTS

A variety of outputs or products is proposed in the AQMP work program to satisfy a number of needs. Specifically, the technical documentation will take the form of the following:

Technical Memorandum (T.M.) - Specialized technical monographs directed at a limited readership interested in the more technical aspects of the program and analyses.

Issue Paper (I.P.) - A more generalized, single topic discussion paper intended to present an issue related to the AQMP program and describe the background behind the issue; these issue papers will be widely distributed for public comment and review.

Technical Report (T.R.) - Detailed and comprehensive documentation on major portions of the program. These reports may take the form of executive summaries, regular reports, or technical appendices to the report.

Final Report (F.R.) - The final summation of the AQMP program; intended to be the "San Francisco Bay Area Air Quality Maintenance Plan."

Technical documentation is scheduled throughout the program at regular intervals. In part, such a schedule is meant to monitor progress of the total effort and provide interim goals and deadlines. The interim products will also serve as inputs to the federal contractual requirements for periodic progress reports. A listing of all the proposed products is given in Exhibit 6; these are also listed in Exhibit 7 under "Major Products" of the description of AQMP work tasks.

#### DESCRIPTION OF WORK ELEMENTS AND TASKS

A complete listing of the tasks and sub-tasks are given in Exhibit 7. The numbering system used to identify the various tasks and sub-tasks is as follows:

Upper case letters signify the work elements in a sequential activity flow.

Lower case letters denote work elements which are input to an upper case letter work element.

Work elements are followed by a "00" numbering system, e.g. B.00.

Work tasks are represented by "10", "20", "30", etc.

Sub-tasks are shown as "11", "12", ... "23", etc.

All documentation or reporting tasks are indicated by a "90," with specific products being noted as sub-task, "91", "92", etc.

Following a detailed description of the AQMP work tasks, a summary of the allocation of work efforts by work element and participating agency is presented (Exhibit 8).

An activity flow chart showing all the tasks and their relationships is presented in Exhibit 9. This exhibit also shows how documentation will be scheduled for regular intervals throughout the program. Critical feedbacks to ensure an iterative process are also given and should be noted.



## EXHIBIT 7. DESCRIPTION AQMP WORK TASKS

TASK: B.00 - BASE YEAR DESCRIPTION

PURPOSE: To prepare a historical and current description of air quality in the Bay Area; this work elements presents the existing air quality problems.

RESPONSIBLE AGENCY: ABAG; BAAPCD

START AND COMPLETION DATE: FIRST 3 MONTHS

INPUTS: B.10 - Base Year Selection - Selection of a common base year for data collection purposes and as a basis for the air quality description.

B.11 - Review Emission Inventory Files - A critical examination of all emission sources to determine their relative contribution to the overall air pollution problem; particular attention to be given to technical assumptions used in compilation of the inventory.

B.12 - Review Demographic Data Bases - In conjunction with the team developing demographic data (population, employment, etc.), ensuring that the necessary data is available or developed for the base year selected.

B.13 - Review Air Quality Data - As part of the ongoing BAAPCD activities preparation of an updated air quality data summary. Within certain constraints, use of the most currently available air quality data.

B.14 - Review Other Time - Series Data - Evaluation and collection of other appropriate time-series data useful in the analysis. This may include fuel consumption statistics or other economic data.

B.20 - Aerometric Data Review/Summary - More extensive historical review of air quality data for developing air quality trends analysis. In addition to the base year, a review of all relevant historical data to understand trends and sort out natural fluctuations of air quality.

B.21 - Update/Provide Summary for All Pollutants for Base Year Selected - Preparation of a current air quality summary for the base year selected. All pollutants for which State or federal states are established will be included.

B.23 - Prepare Current Air Quality Historical Trend Summary - Using the results of tasks B.21 and B.22 to prepare an updated trends analysis of air quality data. Basically preparation of a current version of the air quality trends.

B.30 - Monitoring Program Review/Summary - An examination of the regional air monitoring activities and identification of future monitoring requirements--improved instrumentation more sites fully instrumented stations, mobile monitoring vans. Based largely on information from the BAAPCD.

B.31 - Describe Current Monitoring Facilities - A review of existing monitoring programs. Descriptions of the number of sites, locations, pollutants monitored, frequency, and types of instrumentation.

B.32 - Describe Near-Term Capital Expansion and Improvement Program - A discussion of near-term (e.g. 5-year) capital improvement program for upgrading and/or expanding the air monitoring network. Specification of priorities for monitoring network expansion and improvement.

B.33 - Relate Preliminary AQMP Monitoring Needs and Long-Term Monitoring Expansion and Improvement Program - Development of monitoring needs as part of AQMP problem identification and enforcement tasks (e.g. location of new sites in rapidly developing or high growth areas). Relating anticipated monitoring needs to short and long-term monitoring expansion programs.

B.34 - Prepare Recommendation on Long-Term Monitoring Needs for Regional Air Quality Surveillance - Based upon tasks B.31-B.33, development of a recommended monitoring program in anticipation of future regional air quality surveillance needs.

B.40 - Base Year Emission Inventory Compilation - For the base year selected, this task develops a detailed emission inventory for the region.

B.41 - Review Most Recently Available Emission Inventory - An examination of the most current emission inventory by source category; all pollutants for which data are available will be reviewed.

B.42 - Critically Review Source by Source Technical Assumptions - A variety of technical assumptions are required in compiling any emission inventory; also, more recent data and information are constantly becoming available for improving these assumptions. This task is intended to provide a critical examination of all technical assumptions need in the emission inventory to ensure the most recent data are used. Among the types of assumptions to be examined are emission factors, reactivity (for hydrocarbons), compliance schedules, and the temporal and spatial distribution of pollutants.

B.43 - Update Emission Inventory for Base Year Selected - Based upon tasks B. 41 and B.42, this task will prepare an updated emission inventory for the base year selected. It will reflect the best available information and state areas of greatest uncertainty in the emission estimates.

B.44 - Format Emission Inventory in Manner Compatible with Prediction and Forecasting Tasks (P.00) - Frequently base-year data and forecast data are incompatible. This task involves anticipating in advance the form of the forecasting prediction data and ensuring baseyear data will be compatible. Most likely, some data formatting will be required to provide consistency and temporal resolution of all data sets.

#### MAJOR PRODUCTS:

B.90 - Base Year Description Documentation

B.91 - Document Results of Tasks B.10-B.40; Prepare Technical Memorandum, "Air" Quality in the Bay Area -- Past and Present"

B.92 - Document Results of Tasks B.10-B.40; Prepare Technical Report, "Air Pollution Control in the Bay Area -- Emission Sources and Control Programs"

COORDINATION REQUIREMENTS: Substantial portions of these tasks are related to ongoing BAAPCD programs and activities conducting under their normal operations. Close coordination with the BAAPCD for data and the interpretation of these data will be sought.

BUDGET: 22 person-months (ABAG-12; BAAPCD - 10)



TASK: b.00 - BASE YEAR TECHNICAL ASSUMPTIONS

PURPOSE: To specify all base year technical assumptions required to describe the base year air quality conditions. To provide clear documentation for all assumptions used.

RESPONSIBLE AGENCY: ABAG; BAAPCD; MTC

START AND COMPLETION DATE: 2nd and 3rd Months

INPUTS: b.10 - Identify from B.00 Tasks, Technical Assumptions Which Need to be Made - In order to ensure compatibility with the forecast data and to provide a forum for critique of base year conditions, this task will specify all technical assumptions which need to be made for describing the base year.

b.11 - Prepare Preliminary Set of Technical Assumptions - once the technical assumptions which need to be made are identified, the best available information will be used to generate a preliminary set of technical assumptions. This information may range from detailed research findings to educated guesses.

b.12 - Establish List of Technical Reviewers to Comment - To gain the benefit of recognized experts, a list of technical reviewers will be established to provide comments and otherwise critique the preliminary technical assumptions generated.

b.13 - Revised Technical Assumptions Based on Comments - Comments received from the technical reviewers will be incorporated as appropriate in developing a revised set of base year technical assumptions. These assumptions will serve as input to the B.00 tasks for base year description.

MAJOR PRODUCTS:

b.90 - Base Year Technical Assumptions Documentation

b.91 - Document Results of Tasks b.10 and Prepare Technical Memorandum, "Base Year Technical Assumptions for AQMP Analysis"

COORDINATION REQUIREMENTS: In addition to the BAAPCD assistance, MTC will provide input on baseyear transportation assumptions, e.g. regional VMT, trips, mode splits, vehicle types, average speeds, etc.

BUDGET: 17 person-months (ABAG - 6; BAAPCD - 7; MTC - 4)

TASK: P.00 - PREDICTION/FORECASTING AND STRATEGY ANALYSIS

PURPOSE: To forecast future baseline conditions, alternatives to the baseline conditions (including various control tactics and strategies), and to project the air quality implications of the scenarios forecast.

RESPONSIBLE AGENCY: ABAG;BAAPCD; MTC; Consultants

START AND COMPLETION DATE: 2nd - 9th Months

INPUTS: P.10 - Baseline Specification - Once the baseyear conditions have been accurately described, it is necessary to define the anticipated baseline conditions. This is sometimes referred to as the Nominal Forecast, "Existing Trends," or "Do Nothing" alternatives.

P.11 - Define Population, Land Use, and Transportation for the Baseline (or Existing Trends) Conditions - As part of the basic data base to be used in the environmental management programs, population, land use, and transportation data will be provided for the baseline conditions. Work on this task is ongoing as part of the ABAG Series 3 Basecases effort.

P.12 - Develop and Format Data for Air Quality Analysis - The data from task P.11 will be formatted and developed where necessary to a form suitable for air quality analysis.

P.20 - Alternatives Selection and Definition - This task will develop the population, land use, and transportation alternatives to be evaluated for their air quality implications. Due to the many permutations and combinations possible, only a limited number of alternatives will be analyzed in detail.

P.21 - Define Population, Land Use, Transportation Alternatives - Also, as part of ongoing ABAG efforts, alternative population, land use and transportation scenarios will be provided (from the ABAG Series 3 Projections efforts).

P.22 - Select Alternatives (Combinations) to be Analyzed - From Task P.21, a limited number of alternative will be selected for detailed analysis. The number of alternatives analyzed will in part be dictated by available resources and time available. The choice of alternatives will be partially based on the policy implications of the alternatives.

P.23 - Select Projection/Forecast Years - In conjunction with the other management planning programs and interim air quality deadlines, forecast years will be selected. Choice of these projection years will consider availability of data for the years in question.



P.24 - Develop Data in Manner Suitable for Air Quality Analysis - This task is another of the data forming, adjustment tasks, where the available data is massaged in order to derive the air quality implications. The extent of these efforts is dependent on the level of detail and accuracy desired in the subsequent analysis.

P.30 - Projected Emission Inventory - This task constitutes the foundation upon which all ensuing analyses proceed. Typically, large uncertainties are anticipated due to the often poorly defined "best available" information.

P.31 - Collect, Develop Data for Point Source Growth Projections - Development of procedures for accurately projecting future emissions from point sources. Requires knowledge of compliance schedules, control equipment and processing procedures, economic conditions, etc.

P.32 - Based on P.31, Compliance Schedules, and Other Factors, Project Sources for Selected Future Years - Utilizing knowledge of the point source and the external factors which affect its emission, provide projections for the point sources.

P.33 - Collect, Develop Data for Non-Point Source Growth Projections - With a knowledge of the non-point sources, collect relevant data to allow for accurately forecasting future emissions from these sources. Where direct data are not available, growth factors may need to be developed.

P.34 - Based on P.33 and Other Factors, Project Non-Point Sources for Selected Future Years - Using the growth factors developed in the previous task, non-point source categories will be projected. An examination will also be made to investigate additional unrecognized non-point sources which may be contributing to the emission inventory.

P.35 - Ensure Format Consistency of All Projected Data with B.44 - In anticipation of the subsequent analyses to be conducted, this task will ensure consistency of data formats.

P.40 - Emission/Air Quality Relationship Review - This task examines the analytical tools available for assisting in the technical analyses. It will report on "state-of-the-art" as well as simpler forms of analyzing the air quality impacts of alternative control strategies.



P.41 - Review Available Air Quality Models for AQMP Applications - Building upon the AQMP-PTF sub-committee report on modeling, this task will summarize available modeling techniques and comment on their appropriateness for AQMP alternatives analysis.

P.42 - Develop Evaluation Criteria for Models Under Consideration - Again, using input from the modeling subcommittee report, evaluation criteria will be presented for deciding which analytical tools are appropriate for the analyses desired. Factors to be considered are types of pollutants, spatial and temporal resolution requirements, costs, data requirements, policy sensitivity, etc.

P.43 - Conduct Simplified Analysis to Highlight Most Serious Projected Air Quality Problems - Due to the many alternatives available for analysis, a two step approach is proposed -- simplified techniques will be used in cases where many alternatives are tested and more rigorous analyses will be considered when a few well defined alternatives need to be analyzed in depth.

P.44 - Recommend a Series of Air Quality Impact Assessment Techniques for Use in Forecasting - Based upon tasks P.41-P.43, prepare recommendations on which techniques should be used in the forecasting air quality portions of the analysis. A variety of techniques may be appropriate depending on the particular analysis needs.

P.50 - Air Quality Forecasts - This task will provide the air quality forecasts for the alternatives to be analyzed. The projected air quality levels will provide the basis for examining the policy implications behind each alternative proposed.

P.51 - Calibration of Selected Forecasting Techniques for Baseline - After the determination of which analytical techniques are to be used, certain calibration procedures will be exercised to assure the technical validity of the analysis results.

P.52 - Conduct Basic Air Quality Forecasts for Major (or Range of) Alternatives Using Simplified Procedures and on a Regional Scale - In an attempt to identify the major issues -- either among the alternatives or proposed control strategies -- simplified forecasting procedures will be used. In most cases, these manual techniques should provide guidance and insight into which alternatives appear desirable for a more detailed analysis.

P.53 - Review Alternatives (or Range of Alternatives) to be Analyzed in More Depth Using More Sophisticated Prediction Techniques - Determine which alternatives should be subjected to more rigorous technical analysis. Use results of task P.52 as input to the deliberations.

P.54 - Conduct In-Depth Technical Analysis of Select Number of Basic Alternatives -- Use Several Techniques for a Comparative Analysis - Based upon the previous task, conduct the detailed analysis on a select number of alternatives. Where appropriate, use a comparative analysis of several techniques to improve the validity of the results.

P.55 - Review Results of Comparative Analysis from P.53 and Modify/Adjust Results if Warranted or Necessary - Critically review the results of P.54. Especially where apparent discrepancies exist in the comparative analysis results, examine all input data and basic model structures to resolve, reconcile, or otherwise explain for differences in technical outputs.

#### MAJOR PRODUCTS:

P.90 - Prediction/Forecasting and Strategy Analysis Documentation

P.91 - Document Results of Task P.30; Prepare Technical Memorandum, "Project Emissions Inventory"

P.92 - Document Results of Tasks P.40 and P.50; Prepare Technical Report, "Air Quality Trends and Forecasts"

COORDINATION REQUIREMENTS: The work element and tasks outlined are highly technical and require complex analysis techniques. It is anticipated that ABAG, BAAPCD, MTC, CARB, and Consultants would be involved.

SPECIAL NOTE: Recently, Supervisor F. Cooper of Alameda County requested the BAAPCD and MTC to conduct certain air quality computer simulation analyses of land use alternatives, primarily focussing on growth in the Livermore Valley. These requests are now under consideration by the BAAPCD and MTC; ABAG, in coordinating with the BAAPCD and MTC regarding the requests is also examining how the studies asked for might be incorporated into the AQMP development.

By and large, the analyses requested fall under the work element, P.00 - Prediction/Forecasting and Strategy Analysis. The scenarios posed by Supervisor Cooper constitute specific alternatives (per task P.20-Alternatives Selection and Definition). The air pollution models alluded to are assumed to be the appropriate analytical techniques for analyzing the alternatives (i.e. LIRAQ and DIFKIN, used by BAAPCD and MTC, respectively, are assumed to be recommended following completion of sub-task "P.44-Recommend a Series of Air Quality Impact Assessment Techniques for Use in Forecasting").

Conducting the analysis requested is part of task "P.50-Air Quality Forecasts," and specifically sub-tasks:

P.51-Calibration of Selected Forecasting Techniques for Baseline

P.54 - Conduct In-Depth Technical Analysis of Select Number of Basic Alternatives -- Use Several Techniques for a Comparative Analysis

P.55 - Review Results of Comparative Analysis from P.54 and Modify/Adjust Results if Warranted or Necessary

While the issues raised are of extreme importance and deal with basic issues to be dealt with in the AQMP, it is uncertain to what extent the requests can be adequately responded to the AQMP work program as proposed. Major constraints are the resources available to conduct the special studies requested.



TASK: p.00 - PREDICTION/FORECASTING TECHNICAL ASSUMPTIONS

PURPOSE: To clearly identify before major technical analyses are conducted what the underlying technical assumptions are with respect to forecasting and predicting future conditions

RESPONSIBLE AGENCY: ABAG; BAAPCD; MTC

START AND COMPLETION DATE: 3rd - 5th Months

INPUTS: p.10 - Identify from P.00 Tasks, Technical Assumptions Which Need to be Made - This task will identify and provide documentation on all technical assumptions used to generate the technical analysis.

p.11 - Prepare Preliminary Set of Technical Assumptions - After the technical assumptions which are required are identified, the best available information will be used to generate a preliminary set of technical assumptions. A considerable range of uncertainty is anticipated for the estimates developed.

p.12 - Establish List of Technical Reviewers to Comment on Assumptions - To gain the benefit of recognized experts, a list of technical reviewers will be established to provide comments and otherwise critique the preliminary technical assumptions generated.

p.13 - Revise Technical Assumptions Based on Comments - Comments received from the technical reviewers will be incorporated as appropriate in developing a revised set of projection/forecasting technical assumptions. These assumptions will serve as input to the P.00 work element.

p.20 - Identify Potential External Constraints to the Air Quality Impacts Analysis - Since uncertainty is always involved in predictions, this task attempts to isolate significant issues which could radically change the air quality impacts. Examples of these include the energy crisis, fuel switching due to shortages (e.g. natural gas), and possible Clean Air Amendments pending in Congress.

p.21 - Define or Bound External Constraints as narrowly as Possible - Obtain the best available information in an attempt to reduce uncertainty; define the particular constraints as accurately as possible.

p.22 - Evaluate Air Quality Implications of External Constraints - Based upon p.21, analyze the air quality implications of external constraints. It may be necessary to provide ranges for estimates.

p.23 - Develop Adjustments to Alternatives Being Evaluated, Provide for Sensitivity Analysis in Forecasts - As appropriate, on the basis of p.21-p.22, adjust the basic prediction/forecasting assumptions.

MAJOR PRODUCTS:

p.90 - Prediction/Forecasting Technical Assumptions Documentation

p.91 - Document Results of Tasks p.10-p.20;  
Prepare Technical Memorandum, "Prediction/Forecasting  
Technical Assumptions for AQMP Analysis"

COORDINATION REQUIREMENTS: Work closely with BAAPCD on point source assumptions and MTC on transportation related assumptions.

BUDGET: 32 person-months (ABAG-22; BAAPCD-6; MTC-4)

SPECIAL NOTE: Considerable interest has been expressed to analyze the air quality implications of alternative energy policies or energy scenarios where certain fuels would be unavailable or severely curtailed in the region. While legitimate interests and relevant to overall environmental management policies, the extent of such analysis in the AQMP will be limited to a modest special study. Selection of this study topic will be finalized at a later date, depending on the specific interests of the EMIF. Initially, it is felt possible topics for investigation might be:

"Impacts of Natural Gas Curtailment on SO<sub>2</sub> and Particulate Air Quality"

"Impacts of Petroleum Shortages on Transportation Related Emission and Air Quality"

The tentative allocation of resources to investigate pertinent energy concerns is 6-10 person months. Detailed assignments will be made after the specific topic of investigation is defined.

TASK: c.00 - CONTROL OPTIONS

PURPOSE: An investigation of the available control options and mitigation measures which might be pursued for improvement of air quality.

RESPONSIBLE AGENCY: ABAG; BAAPCD; MTC

START AND COMPLETION DATE: 2nd-5th Months

INPUTS: c.10 - Inventory Control Options and Mitigation Measures Which Could be Adopted for Air Quality Improvement - This task is basically preparing a "shopping list" of possible control tactics which might be implemented. Similarly, a subset of the controls will be listing of mitigation measures. Previous work in this area will be relied upon to initiate this task.

c.20 - Evaluate Control Options and Mitigation Measures for Feasibility of Implementation and Technical Effectiveness - An analysis of the control options and mitigation measures for their effectiveness in reducing pollutant emissions, public acceptability and feasibility for implementation. This task will be largely qualitative in nature.

c.30 - Develop and Recommend Control Measures and Strategies for Analysis - Following the screening conducted in task c.20, specific control measures will be recommended for more detailed analysis. Also, groups of measures or strategies will be formulated for further analysis.

MAJOR PRODUCTS:

c.90 - Control Options Documentation

c.91 - Document Results of Tasks c.10-c.20;  
Prepare Technical Memorandum, "Air Pollution Control Options  
--An Inventory and Evaluation"

COORDINATION REQUIREMENTS: ABAG, BAAPCD, and MTC will lead this tasks with inputs as appropriate from local governments and interested parties.

BUDGET: 15 person-months (ABAG-9; BAAPCD-4; MTC-4)



TASK: A.00 - IMPACT ASSESSMENT

PURPOSE: To provide an assessment of all possible impacts resulting from controls proposed. Included will be social, economic, and environmental concerns.

RESPONSIBLE AGENCY: ABAG; BAAPCD; MTC; Consultants

START AND COMPLETION DATE: 9th-13th Months

INPUTS: A.10 - Define Alternative Impact Assessment Frameworks Based Upon Regional/Local Concerns -- Include Evaluation Criteria of Each Framework - This task will investigate impact assessment techniques, procedures, and processes. Those deemed most appropriate for this investigation will be identified.

A.10 - Develop and Analyze Impacts of the "Air Quality Standards" Framework - This task builds largely upon the P.00 analysis in that concerns for technical effectiveness are predominant. In this framework, strategies which reduce maximum emissions are the most desirable.

A.30 - Develop and Analyze Impacts of a Cost-Benefit Analysis Framework - This task assesses the impacts of proposed controls in terms of "costs" and "benefits." The degree of quantification is dependent on the definitions used for "costs" and "benefits."

A.40 - Develop and Analyze a Least - Cost Approach Framework - This task assesses the impacts of proposed controls primarily in terms of two criteria -- technical effectiveness and pollution control costs. Typical results are expressed in "thousands of dollars per ton of pollutant x removed." Optimization techniques can be utilized to formulate packages of least-cost controls.

A.50 - Develop and Analyze a Comprehensive Environmental Evaluation System Framework Based Largely on Subjective Values of Affected Agencies - This task proposes an assessment of control strategy impacts through gaining techniques, Delphi procedures, or other subjective analyses. Local inputs are valued in this assessment framework.

A.60 - Develop and Analyze a "208" Impact Assessment Framework - This task would utilize a common assessment framework for all management plans being prepared. The formulation of that framework for all management plans being prepared. The formulation of that framework is presently undefined but could conceivably take the form of tasks A.30, A.40, A.50 or some modified version of these tasks.

MAJOR PRODUCTS:

A.90 - Impact Assessment Documentation

A.91 - Document Results of Task A.10;  
Prepare Issue Paper, "Development of Regional Assessment Frameworks for Air Quality"

A.92 - Document Results of Task A.20-A.60; Prepare Technical Memorandum, "Alternative Air Quality Assessment Frameworks"

A.93 - Document Results of Tasks A.10-A.60;  
Prepare Technical Report, "Air Pollution Controls and Impacts"

COORDINATION REQUIREMENTS: This task will involve ABAG, BAAPCD, MTC and local governments. Depending on the assessment procedures to be used, the involvement will be different. Internally, this task must be closely coordinated with the impact assessment tasks of other management plans being prepared.

BUDGET: 40 person-months (ABAG-20; BAAPCD-8; MTC-5; Consultant-7)

TASK: a.00 - EVALUATION CRITERIA

PURPOSE: The development of evaluation criteria to be used in the impact assessment work element.

RESPONSIBLE AGENCY: ABAG; BAAPCD

START AND COMPLETION DATE: 6th-9th Months

INPUTS: a.10 - Inventory Appropriate Guidelines and Standards Applicable to Impact Assessment - An examination of environmental guidelines and standards will be made to inventory relevant evaluation criteria. This task will be basically a literature review.

a.20 - Review Local and Regional General Plans for Air Quality Implications - A review will be made of local and regional general plan documents for their air quality implications.

a.30 - Ensure Consideration of All Relevant Evaluation Criteria - This task is to "fill the gap" or provide additional evaluation criteria not covered in tasks a.10 and a.20. Included might be health and welfare, economic, political, or other environmental factors.

MAJOR PRODUCTS: None anticipated - The results of these tasks will be input directly to the "Impact Assessment" work element. Any documentation deemed necessary will be provided in Task A.90 - Impact Assessment Documentation

COORDINATION REQUIREMENTS: Working closely with the BAAPCD in review of the air quality implications of general plans.

BUDGET: 14 person-months (ABAG-12; BAAPCD-2)



TASK: F.00 - PLAN FORMULATION

PURPOSE: Based upon the technical analyses in the preceding work elements, this task develops a plan, i.e. the AQMP

RESPONSIBLE AGENCY: ABAG; BAAPCD; MTC: Local Governments

START AND COMPLETION DATE: 12th-15th Months

INPUTS: F.10 - Control Strategy Screening and Evaluation - This task provides for evaluation of control strategy proposals based upon impact assessment and other technical analyses conducted. Political considerations and environmental trade-offs are discussed and developed.

F.11 - Based on Tasks A.00, Select Those Strategies Which are Most "Attractive" An evaluation of proposed controls based on criteria such as effectiveness, implementability, minimal impacts, public acceptability, federal and State requirements.

F.12 - Develop Several Control Strategy Packages for Adoption - Based on the evaluation process and consideration for all impacts, this sub-task will develop several control strategy packages to the recommended for adoption.

F.20 - Control Strategy Recommendations - This task builds upon task F.10 and articulates recommended control strategies.

F.21 - Staff Preparation of Several Alternative Control Strategies, Including Preferred Alternative - Based on staff participation with local governments and policy-makers in the evaluation process, this sub-task will involve staff documentation of several alternative control strategies, including the preferred alternative.

F.30 - Development of Regional AQMP Policy - Selection of the preferred AQMP control strategies from the available alternatives analyzed will require careful consideration by the FMTF and public. To solicit public comments and identify public concerns, workshops, meetings, or symposia will be held. From this process will emerge a regional AQMP policy for improving and then maintaining air quality.

F.40 - Development of Local Guidelines for AQMP Adoption - The purpose of developing local guidelines for AQMP adoption is to assist local governments in "adopting" the plan. Development of these guidelines will require general adoption procedures for institutions which are to play major roles in implementing the AQMP. Included in the guidelines will be detailed procedures for securing "assurances" from each implementing agency that it will carry out its responsibilities as indicated in the plan.

MAJOR PRODUCTS: F.90 - Plan Formulation Documentation

F.91 - Document Results of Task F.10; Prepare an Issue Paper, "Development of a Regional Air Quality Strategy"

F.92 - Document Results of Task F.20; Prepare Technical Memorandum, "Guidelines for AQMP Adoption"

F.93 - Document Results of Task F.30; Prepare Technical Memorandum, "Regional Policies for Air Quality Maintenance"

F.94 - Document Results of Task F.00; Prepare Technical Report, "Technical Support Document - Bay Area AQMP"

COORDINATION REQUIREMENTS: Involvement by AGAB, BAAPCD, MTC and active participation with local governments and other interested groups.

BUDGET: 41 person-months (ABAG 31; BAAPCD-4; MTC-4; Consultants-2)

TASK: I.00 - AQMP INSTITUTIONALIZATION

PURPOSE: To evaluate and develop institutional arrangements for implementation, monitoring, and enforcement of the AQMP; also, to develop procedures to ensure a continuing AQMP planning process within the context of an Environmental Management Plan.

RESPONSIBLE AGENCY: ABAG; BAAPCD; MTC; Local Governmenets

START AND COMPLETION DATE: 8th-16th Months

INPUTS: I.10 - Evaluation of Institutional Arrangements for AQMP Implementation  
The purpose of this work task is to evaluate alternative institutional arrangements for AQMP implementation in order to develop appropriate institutional arrangements for such implementation. This task will involve evaluating the impacts of the alternative instutional arrangements.

I.11 - Review Most Probable Classes of Control Strategies for Implementation

This review task will involve the examination of "attractive" control strategies from subtask F.11. Among the criteria to be used will be the following: existence of (or need for adoption) enforceable rules and regulations that implement the strategy; administrative procedures to be used in the implementation of each strategy; status of legal authority to implement the measure; and enforcement methods for each measure, including but not limited to, procedures for monitoring compliance with each of the measures. In addition, the financial requirements for their implementation will also be analyzed.

I.12 - Review Existing Governmental Responsibilities, Mandates, Legislative Authority for Implementation of Potential Controls

Agencies to be considered in this review will be identified based on their potential for an implementation role. Using the list of potential controls from subtask F.11, a determination of agency authority to implement these measures will be made.

This determination will be based on such factors as regulatory and financial capabilities of each agency. The review will include the identification of the responsibilities, mandates and legislative authority of each agency.



- I.13 - Evaluate Alternative Institutional Arrangements for AQMP Implementation, Including New Arrangements Requiring Additional Legislation if Appropriate  
Based upon the information from subtasks I.11 and I.12, alternative institutional arrangements for AQMP implementation will be developed and evaluated. The alternatives may include new arrangements which require additional legislation. The evaluation criteria for the institutional arrangements will include, but not be limited to: Implementation authority; ability to integrate air pollution control objectives with other state and local activities affecting environmental quality; intergovernmental and interagency coordination and consultation; effective consultation with concerned interest groups, including the general public; and procedures for resolution of conflicts among participating institutions which might otherwise impede implementation. Where new legislation would be required for a particular alternative, an evaluation of the necessary local, State, and/or federal legislation and its adoption process must be made.
- I.14 - Assess Impacts of Alternative Institutional Arrangements for AQMP Implementation  
This task requires the assessment of the alternative institutional arrangements of I.13. The factors to be considered in this assessment are such things as cost --both direct and indirect; equity concerns; administrative requirements; legal issues; and state/local relationships.
- I.15 - Recommend an Institutional Arrangement for AQMP Implementation  
The selection of a recommended institutional arrangement for AQMP implementation will require consideration of alternatives by the EMTF and the public. To solicit and incorporate public comments, public workshops, meetings and conferences will be held. Comments received will serve as input to any recommended institutional arrangement.
- I.20 - AQMP Implementation Program  
The purpose of this work task is to identify agencies responsible for implementation of the AQMP and resources available for implementation. It is anticipated a number of agencies may be involved depending on the variety of management strategies recommended. A major thrust of the implementation program will be the establishment of a continuing planning process.

I.21 - Delineate Agency Roles, Resources and Responsibilities  
— Division of Labor

This subtask requires the identification of the agency to be designated by the Governor as primarily responsible for implementation, as well as the identification of those agencies which have other responsibilities in the implementation program. The responsibilities of each agency must be defined and assurances from each agency that it will implement its responsibilities indicated in the plan. The description of resources should include 1) identification of agency resources available to implement the plan; 2) specification of additional resources required (if any); 3) written assurances from the Governor or local government chief executive that the agency will actively seek additional resources needed to implement the plan.

I.22 - Develop an Effective and Continuous Enforcement and Monitoring Program Component to Plan Implementation

The development of a continuing planning process will include governmental administrative functions capable of maintaining the application of air pollution control measures. This task will include the identification of an agency with the authority to monitor the implementation of the plan. This program component shall include: an inventory of agency plans and actions that have significant air quality effects; mechanisms to use and continually refine the working relationships among agencies that were developed during plan preparation; and a public participation program to monitor progress and facilitate enforcement through encouraging public effort in reporting violations.

I.30 - Public Review of Recommended Plan

The purpose of public participation in reviewing the recommended plan is to receive and consider comments from the public, special interest groups and public/private institutions. The role of the public institutions and special interest groups will be particularly important in plan adoption. Another objective of public participation in reviewing the recommended plan is to develop commitment concerning the final plan among elected officials, planners and the various publics.

I.31 - EMTF Review and Recommendation

During their review, the EMTF will be made aware of the public comments and opinions which are being received as part of subtask I.32. In addition, presentations that highlight the ramifications of the plan will be made. Along with the major role the EMTF plays in the recommendation of the plan to the ABAG Executive Board their recommendation will be structured in order to develop agreements and proposals for legislation.

- I.32 - Interested Agency/Public Review and Recommendations  
Various public participation methods will be used to identify public comments on the recommended plan, such as public meetings and public hearings. Emphasis on other methods, for example, public information through the news media, publications and speeches, will be stressed as well.

MAJOR PRODUCTS:

I.90 - AQMP Institutionalization Documentation

- I.91 - Document Results of Task I.10; Prepare Issue Paper, "Institutional Arrangements for Air Pollution Control"

- I.92 - Document Results of Tasks I.10 - I.20; Prepare Technical Report, "An Evaluation of Alternative Institutional Arrangements for Implementing an AQMP"

COORDINATION REQUIREMENTS: Involvement by ABAG, BAAPCD, MTC and active participation with local governments and other interested groups.

BUDGET: 27 Person-Months (ABAG-16; BAAPCD-6; MTC-2; Consultants-3)



TASK: L.00 - PLAN ADOPTION

PURPOSE: To arrange for and participate in the AQMP plan adoption process.

RESPONSIBLE AGENCY: ABAG, BAAPCD, MTC, Local Governments

START AND COMPLETION DATE: 20th-24th Months

INPUTS: L.10 - Plan Dissemination

The purpose of this task is to aid the continuing public participation program during the implementation stage of the plan.

L.11 - Organize Efforts for Extensive Plan Dissemination Throughout Region

This task will require the development of a strategy for plan dissemination throughout the Region.

L.12 - Implement Efforts of Task L.11

Publications and resource personnel will be provided to disseminate the AQMP throughout the region and provide background information as required.

L.20 - Local Review and Regional Adoption

The purpose of this task is to have the AQMP reviewed by local governments to ensure their participation in the continuing planning process.

L.21 - Assist Local Governments in Understanding AQMP

This task will require meetings with local governments in support of their efforts to understand the AQMP. Support for AQMP review may require resource personnel for Speeches and provision of publications for dissemination to regional government officials.

L.22 - Assist Regional Governments in Understanding Plan and Its Adoption

This task will require meetings with regional agencies in support of their efforts to adopt the plan. Support for AQMP adoption may require resource personnel for speeches and provision of publications for dissemination to regional agency officials.

L.23 - Establish Mechanisms for Ongoing Assistance to Local and Regional Agencies for Continuing Planning Process

This task involves development of procedures or mechanisms to ensure participation of local and regional agencies in the continuing planning process. Procedures may entail ongoing assistance to local and regional agencies or continuation of the inter-agency working relationships established during AQMP preparation.

MAJOR PRODUCTS:

L.90 - Plan Adoption Documentation

L.91 - Prepare Documentation for Entire Study and final  
Report, "San Francisco Bay Area Air Quality  
Maintenance Plan"

COORDINATION REQUIREMENTS: Involvement of all affected governmental  
entitites.

BUDGET: 11 person-months (ABAG-5; BAAPCD-4; MTC-2)

Exhibit 8: Allocation of Efforts By Participating Agency

<u>Work Element</u>	<u>Agency (Person-Months)</u>				<u>Total</u>
	<u>ABAG</u>	<u>BAAPCD</u>	<u>MTC</u>	<u>Consultants</u>	
B.00-Base Year Description	12	10	—	—	22
b.00-Base Year Technical	5	7	4	—	16
P.00-Prediction/Forecasting and Strategy Analysis	15	9	5	8	37
p.00-Prediction/Forecasting Technical Assumptions	17	6	4	—	27
c.00-Control Options	7	4	4	—	15
A.00-Impact Assessment	20	8	5	7	40
a.00-Evaluation Criteria	12	2	—	—	14
F.00-Plan Formulation	31	4	4	2	41
I.00-AQMP Institutionaliza- tion	16	6	2	3	27
L.00-Plan Adoption	<u>5</u>	<u>4</u>	<u>2</u>	<u>—</u>	<u>11</u>
<u>T O T A L S</u>	140	60	30	20	250



## MUNICIPAL WASTEWATER FACILITIES

This management plan is concerned with municipal wastewater sewerage facilities, commonly known as "201" facilities, because such facilities are eligible for grants under Section 201 of the Water Pollution Control Act Amendments of 1972. Considerable work has been done on the planning and, in some cases, the implementation of these facilities. It is not the intention in this program to disrupt the considerable momentum that has been established with respect to the construction of these facilities. The approach in this program will be to deal with these facilities on a project-by-project basis. It will not reexamine those facilities for which planning is essentially complete. Rather, it will address only those remaining projects for which the primary or secondary impacts will be significant with respect to environmental management.

TASK: Maintain contact and comment on 201 facilities in EIR/EIS process (based on current ABAG policy)

PURPOSE: Review and comment on existing on-going planning for 201 facilities to maintain contact between current 201 planning and 208 activities.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Immediately to month 9

INPUT: All EIR/EIS documents on current 201 planning, plans and policies of local agencies. Later input will be from PLUM/Series 3 task outputs, tasks on assessment/evaluation, and other significant 208 work tasks.

MAJOR PRODUCTS AND EVENTS: Comments on significant environmental issues raised in the EIR/EIS will be produced through ABAG's existing A-95 process. Periodic progress reports and analyses of on-going 201 planning will be produced for use in other 208 work tasks. Summaries of significant 208 work will be produced and made available for local 201 planning as needed.

METHOD: Review of environmental documents and project reports to determine significant environmental issues and to maintain a regional tracking system on projects. Attendance at EIR/EIS and public hearings, attendance at policy and technical group meetings of local agencies; contact with local agency staffs to clarify issues, and to inform them of progress and interim findings at 208 work; analysis of significant issues in 208 work tasks later in the program.

COORDINATION: RWQCB, SWRCB, CPA staffs; local dischargers and local government agencies; tasks on population and land use; assessment/evaluation; and other significant 208 work efforts.

BUDGET: \$27,500

TASK: Collect and update current 201 facilities plans

PURPOSE: Develop in-house familiarity with context and status of 201 plans in order to provide information to other Environmental Management Plan Program tasks.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 6

INPUT: Copies of all 201 plans and EIR/EIS documents; copies of BASSA Project Tracking Reports on 201 facilities; Regional and State Board Project Lists; task on maintaining contact and commenting on 201 facilities.

MAJOR PRODUCTS AND EVENTS: A) A monitoring or tracking report capable of easy updating, listing existing and currently planned 201 projects in the region in a tabular format with data on name of agency, project description, costs, capacity, dry weather flow, wet weather flow, industrial and commercial flows, per capita flow, service area population served, date of concept approval, dates of public hearings, dates of report submittals, schedule for completion, status and significant issues.

B) Written description of existing or proposed treatment, estimation of effluent water quality and quantity for both normal and wet weather conditions; staging schedule, discharge location, analysis of existing capacity and uncommitted and committed future capacity for dry and wet weather, industrial commercial and domestic use.

C) Update of 1970 USGS map of municipal discharger service areas, plant and outfall locations.

METHOD: Review of all 201 project reports and supporting data; contact with local agency staffs and consultants, review of BASSA Project Tracking Reports; attendance at local agency meetings on 201 projects.

COORDINATION: BASSA, RWQCB, SWRCB, EPA, USGS, local agencies; tasks on population and land use, local development policies, water quality models and data management.

BUDGET: \$8,300



TASK: Describe data needs

PURPOSE: Provide early listing of new water quality data relative to 201 programs which needs to be collected or compiled into a usable form.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 2

INPUTS: Existing NPDES self-monitoring program and influent/effluent data from dischargers, including project reports and infiltration/inflow analysis. Previous data collected by non-dischargers such as USGS, USBR, DWR, etc., in Bay and ocean.

MAJOR PROJECTS AND EVENTS: Display (perhaps on map or tubular form) of type and location of data now available; specific recommendations on additional data that needs to be collected or compiled in usable forms in order to determine water quality effects in later tasks; recommendation for data format and management system.

METHOD: Review RWQCB and other agency files and data libraries to determine extent, type and usefulness of existing data; develop map of region where data is or has been collected and type (differentiate between wet and dry weather seasons).

COORDINATION: RWQCB, USGS, USBR, DWR and local dischargers; tasks on model studies; data management.

BUDGET: \$5,500

TASK: Develop procedures for calculating future wastewater quality and quantity

PURPOSE: Develop procedures leading to coefficients for relating land use, service area, density, population, employment and water usage to projections for untreated wastewater quality and quantity for both wet and dry weather, for each service area in the region, over time.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 2 to month 6

INPUT: Data from technical literature, project reports, EIR/EIS documents, local policies and general plans, census figures, water supply and usage figures; tasks on population, land use, and employment.

OUTPUT: Per capita quantity and quality coefficients and unit area quantity and quality coefficients, for flows and constituents of concern for each service area, including variations over time, for both wet weather and dry weather conditions.

METHODOLOGY: Review existing documents and technical reports to determine per capita and per area wastewater generation figures; develop reasonable approximations where existing data is non-existent or inadequate; review pretreatment standards and ordinances for data on non-discrete industrial flows.

COORDINATION: Coordination will be maintained with PLUM/ Series 3 to assure compatibility and utility of data generated tasks on water quality analytical procedures and industrial management.

BUDGET: \$5,500

TASK: Project future quality and quantity of wastewater

PURPOSE: Develop projections for untreated and treated wet and dry weather wastewater quality and quantity over time for each service area.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 6 to month 8

INPUT: Output from previous task (coefficients); data from PLUM/Series 3 and local development policies; future treatment and performance levels of 201 facilities based on current planning and reasonable upgrading as implied by task on assessment of water quality effects of existing facilities; industrial management data.

OUTPUT: Wet weather and dry weather, treated and untreated, quality and quantity of wastewater, over time for each service area.

METHODOLOGY: Combine PLUM/Series 3 data on population and land use, with coefficients developed in previous task to determine untreated wastewater quality and quantity. Use information in 201 facilities plans to determine treatment levels and effluent quality and quantity.

COORDINATION: PLUM/Series 3 local development policy tasks; industrial management; water quality analytical procedures.

BUDGET: \$2,800



TASK: Determine future effects of discharges on Bay and ocean

PURPOSE: Analyze water quality model outputs to determine future water quality conditions based on discharges from planned facilities for both wet and dry weather.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 8 to month 10

INPUT: Data on future quality and quantity of wastewater from municipal facilities; data on discrete industrial discharges, non-point sources and runoff.

OUTPUT: Wet weather and dry weather estimates of water quality conditions for selected parameters in the Bay and ocean will be presented; areas where water quality objectives are not met or are in danger of not being met will be documented, timing and staging of facilities will be related to effects on water quality. Specific point sources not meeting objectives will be identified. Influence of point sources in relation to non-point sources and runoff will be determined.

METHODOLOGY: This task will primarily consist of an analysis of water quality model outputs; an analysis will be made of existing past model runs by local dischargers in their 201 planning and by a BASSA consultant to determine gross effects, critical locations, and future model runs effects of large changes of Delta outflow will not be analyzed in this task.

COORDINATION: Tasks on water quality models, non-point sources, industrial management, surface runoff.

BUDGET: \$5,500

TASK: Identify facilities which need to be constructed, expanded and upgraded in the future

PURPOSE: Identify facilities or service areas where existing planning is inadequate to accommodate future projected wastewater flows or to meet water quality objectives in the Bay or ocean waters.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 7 to month 10

INPUTS: Information from tasks on collection and updating of current 201 facilities plans, assess water quality effects of currently planned facilities, project future quality and quantity of wastewaters, determine future effects of dischargers on Bay and ocean, water quality model, industrial management, non-point sources and surface runoff.

MAJOR PRODUCTS: A tentative list by service areas for facilities which must be constructed, expanded or upgraded; a determination of other facilities' unused or available capacity for the future; a schedule for required completion of construction, expansion or upgrading.

METHOD: An analysis of water quality model outputs compared to trial water quality objectives; a comparison of existing and planned facilities' capacity and treatment levels of staging to projected flows.

COORDINATION: All previous tasks on municipal facilities, water quality models, water quality objectives, industrial management, non-point sources, surface runoff, population and land use.

BUDGET: \$5,500

TASK: Assess water quality effects of currently planned facilities

PURPOSE: Using available data and existing planning, assess the near term water quality effects of presently planned facilities.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 6 to month 8

INPUTS: Tasks on collecting and updating of current 201 planning and water quality models.

MAJOR PRODUCTS: Determination of critical locations in the Bay where water quality objectives are not or may not be met, based on existing planning; determination of existing or planned facilities which may or may not need upgrading and expansion.

METHODS: Reanalysis of existing recent model runs performed by BASSA consultant; analysis of some new model runs, especially for wet weather and for critical areas.

COORDINATION: Tasks on existing 201 facilities, liaison with consultants, task on water quality models.

BUDGET: \$2,800



TASK: Formulate and describe alternatives

PURPOSE: Formulate and describe alternative structural and non-structural control measures for service areas and/or facilities which need to be constructed, expanded or upgraded.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 10 to month 11

INPUT: Previous task on facilities which need to be constructed, expanded or upgraded, tasks on institutional financial mechanisms, tasks on control measures.

MAJOR PRODUCTS: Matrix of alternative structural and non-structural control measures for those service areas identified in the previous task; notification via A-95 process of need for additional planning and/or control measures.

METHOD: Review of previous work on control measures, 201 project responds, contact with regulatory and planning agencies, contact with local agencies.

COORDINATION: Tasks on assessment/evaluation, financial/institutional measures, local development policies, comment on 201 facilities under A-95.

BUDGET: \$1,400

TASK: Assess/evaluate

PURPOSE: Assess and evaluate individually and in combination the alternatives formulated in the preceding task.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 11 to month 13

INPUT: The alternatives developed in the previous task will be an input to the assessment evaluation procedures developed elsewhere.

OUTPUT: Specific impacts and an evaluation and assessment of the structural and non-structural control measures proposed to complete 201 planning in the Region.

METHODOLOGY: The assessment/evaluation procedures developed by ABAG elsewhere will be the framework by which the alternative structural and non-structural control measures will be assessed.

COORDINATION: The descriptions and components of individual control measures will have to be very clear so evaluators will have current sufficient information. Some contact with local agencies may be needed to determine their views on such items as costs and implementability of control measures.

BUDGET: \$5,500

TASK: Describe continuing planning process

PURPOSE: Describe what is required to be included in the continuing planning process with respect to management of municipal wastewater facilities.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 11 to month 13

INPUTS: Conclusions from other tasks on municipal wastewater facilities, water quality models, population and land use, industrial discharges, and assessment/evaluation.

MAJOR PRODUCTS: A set of recommendations which can be developed into an action program to be undertaken in the continuing planning process in order to ensure proper planning, construction; implementation and operation of needed municipal wastewater facilities. Control measures, priorities, and unresolved conflicts will be examples of issues to be resolved later.

METHODS: Review of specific outputs of previous tasks on municipal facilities, assessment/evaluation; water quality models, population and land use and industrial discharges.

COORDINATION: Tasks on municipal facilities, assessment/evaluation, water quality models, population and land use and industrial discharges.

BUDGET: \$2,800



TASK: Develop institutional financial mechanisms

PURPOSE: Describe institutional/financial mechanisms necessary for implementation of alternatives and for an assessment of their institutional and financial feasibility.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 10 to month 13

INPUTS: Tasks on alternatives for upgrading and expanding municipal facilities and institutional/financial mechanisms.

MAJOR PRODUCTS: Proposed methods to insure the implementation of recommended alternatives for municipal facilities and to continue adequate planning and operation of facilities.

METHODS: Review of possible control measures developed by institutional/financial mechanisms tasks to determine most feasible alternatives; an assessment of the viability of such control measures.

COORDINATION: Tasks on assessment/evaluation and institutional/financial mechanisms.

BUDGET: \$2,800

TASK: Document plan for municipal dischargers.

PURPOSE: Document the management plan for municipal dischargers including control measures, institutional/financial mechanisms, and continuing planning process.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 13 to month 14

INPUTS: All previous tasks on municipal facilities.

MAJOR PRODUCTS AND EVENTS: 20 year construction priority project list for municipal facilities including wet weather control projects (list will include facility description, costs, scheduling, service area, capacity, discharge location, staging and degree of treatment; regulatory program for control of discharges in each service area and establishment of mechanisms for mitigating control measures; establishment of numerical guidelines for control of wet weather discharges; a list of service areas for which capacity is either "excessive" or insufficient based on Series 3/PLUM results and projections which thereby require immediate attention.

METHOD: Review all previous tasks on municipal facilities and incorporate findings and recommendations; obtain public and EMTF input.

COORDINATION REQUIREMENTS: Public, EMTA, institutional financial mechanisms.

BUDGET: \$4,100

## NONPOINT SOURCES OTHER THAN SURFACE RUNOFF

This management plan will address nonpoint sources of pollution other than those covered in other management plans. This management plan will consider, for example, vessel wastes, wastes from recreational areas, and septic tanks. The development of this management plan will proceed from an analysis of which other nonpoint sources are significant and appropriate for a regional approach. It is likely that the two year product of this management plan will be less definitive, certainly in terms of structures, than the products of other management plans.



TASK: Assess significance of other sources, including vessels, septic tanks, and recreational wastes.

PURPOSE: The purpose of this task is to enumerate all of the nonpoint sources that could possibly be considered in this management plan and to conduct an initial technical evaluation of their significance. Control of these types of wastes have been found in some cases to be extremely sensitive politically at the local level: for example, the houseboat discharge problem in Richardson Bay. The analysis of significance should consider the seriousness of these types of problems and should make a determination as to whether any significant contribution can be made in this environmental management program.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to month 3.

INPUTS: The Basin Plan.

MAJOR PRODUCTS AND EVENTS: A description of nonpoint sources that could be considered in this management plan. Such description would include: 1) nature of the nonpoint source, 2) type of problems caused by the source, and 3) preliminary evaluation of significance of the problems.

METHOD: Nonpoint sources of wastes other than surface runoff will be identified. These include houseboats and other vessel wastes, wastes from recreational area, and septic tank effluents. Problems caused by these nonpoint sources of wastes will then be examined and their significance will be evaluated.

COORDINATION REQUIREMENT: Surface runoff modeling, and water quality modeling tasks (to determine significance of problems).

BUDGET: \$8,750

TASK: Describe data needs.

PURPOSE: The purpose of this task is to produce an early description of needs for the collection and analysis of new data.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to month 2.

INPUTS: Products of preceding task..

MAJOR PRODUCTS AND EVENTS: A list of data needs for each significant source identified in the first task. Such data needs may include the identification of communities using septic tanks, evaluation of county septic tank ordinances, information on the relationship of septic tanks to secondary environmental impacts, information on existing sanitation facilities in recreational areas, estimated quantity of vessel wastes, etc.

METHOD: Review and evaluate existing information on problems related to nonpoint sources.

COORDINATION REQUIREMENTS: Task concerning the significance of nonpoint sources.

BUDGET: \$8,750 .

TASK: Document significant problems (including causes).

PURPOSE: The purpose of this task is to describe in detail those nonpoint sources not considered elsewhere that are appropriate for the development of management plans in this program.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 3 to month 6.

INPUTS: Products of the first tasks.

MAJOR PRODUCTS AND EVENTS: A list of significant problems related to nonpoint sources that should be considered in this management plan. For example, failing septic tank systems have caused water quality and public health problems, and continued use or replacement of septic tank systems will affect the growth patterns of suburban and rural areas in the region.

METHOD: This task will be based on the first task concerning the significance of nonpoint sources.

COORDINATION REQUIREMENTS: Tasks on study management and administration, and local problem identification.

BUDGET: \$8,750



TASK: Project future problems.

PURPOSE: The purpose of this task is to project problems developed in the preceding task in the future.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 6 to month 9.

INPUTS: Employment, land use, and population projections and preceding task concerning existing significant problems related to nonpoint sources.

MAJOR PRODUCTS AND EVENTS: A description of the extent and cause of the future problems related to each of the nonpoint sources.

METHOD: Review existing problems related to nonpoint sources and estimate the trend of the problems based on employment, land use, and population projections.

COORDINATION REQUIREMENTS: Tasks concerning employment, land use, and population projects and task concerning the documentation of existing significant problems.

BUDGET: \$8,750

TASK: Formulate/describe alternatives.

PURPOSE: The purpose of this task is to formulate and describe alternatives for control measures for the regionally significant nonpoint sources.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 9 to month 11.

INPUTS: Existing and future significant problems related to nonpoint sources.

MAJOR PRODUCTS AND EVENTS: A description of the alternative control measures for the problems. The description should be consistent with the formats outlined in the tasks on assessment procedures.

METHOD: Analyze past work on control of nonpoint sources. Formulate structural and non-structural solutions such as construction of sanitation facilities at recreation locations, collection systems for vessel wastes, and a regional septic tank policy for the construction, maintenance, and replacement of septic tank systems.

COORDINATION REQUIREMENTS: Tasks on existing and future significant problems related to nonpoint sources.

BUDGET: \$8,750

TASK: Assess and evaluate.

PURPOSE: The purpose of this task is to assess and evaluate the alternative control measures formulated in the preceding task.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to month 13.

INPUTS: Control measures and assessment procedures developed by ABAG.

MAJOR PRODUCTS AND EVENTS: Environmental, social and economic impacts of the control measures.

METHOD: Assess and evaluate the control measures based on established criteria and procedures.

COORDINATION REQUIREMENTS: This assessment/evaluation should be coordinated with those aspects of the assessment to be carried out at the regional level, and will require local technical and public review.

BUDGET: \$8,750



TASK: Develop institutional/financial mechanisms.

PURPOSE: The purpose of this task is to develop institutional/financial mechanisms for the implementation of the best alternative control measure or group of alternative control measures.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 9 to month 13.

INPUTS: Institutional/financial background information developed at the regional level.

MAJOR PRODUCTS AND EVENTS: Recommendations on the institutional/financial mechanisms for the implementation of the alternative control measures.

METHOD: This task should be based on the institutional/financial background information developed at the regional level and should use, whenever necessary, the institutional/financial assistance available through ABAG.

COORDINATION REQUIREMENTS: Task on institution/financial background information.

BUDGET: \$8,750

TASK: Describe continuing planning process.

PURPOSE: The purpose of this task is to describe those elements of the continuing planning process pertinent to nonpoint sources other than surface runoff.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to month 13.

MAJOR PRODUCTS AND EVENTS: Process for solving problems related to all nonpoint sources other than surface runoff.

METHOD: This task should consider especially the resolution of certain difficult institutional, financial and regulatory problems concerning all nonpoint sources of waste, including those not covered in this management plan. For example, this task would outline the process for solving the problem of vessel waste discharge into Richardson Bay if it were determined early that this was not an appropriate problem to be addressed in this environmental management plan.

COORDINATION REQUIREMENTS: Task on continuing planning process.

BUDGET: \$4,375

TASK: Document plan.

PURPOSE: The purpose of this task is to document the environmental management plan for nonpoint sources other than surface runoff.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 13 to month 14.

INPUTS: Tasks on assessment/evaluation and continuing planning process.

MAJOR PRODUCTS AND EVENTS: A management plan for nonpoint sources which will include the control measures and the institutional/financial and other action necessary to implement the control measures. It will also include a description of those elements of the continuing planning process particular to this management plan.

METHOD: Compile products of preceding tasks.

COORDINATION REQUIREMENTS: Tasks on assessment/evaluation and continuing planning process and plan integration.

BUDGET: \$4,375



## INDUSTRIAL DISCHARGES

This management plan will consider industrial dischargers who discharge into municipal sewerage systems (nondiscrete industrial dischargers), as well as those industrial dischargers with their own treatment outfall facilities (discrete industrial dischargers). It has proven to be difficult, if not impossible, in past studies to develop specific facilities recommendations for both types of industrial discharges. An approach that has been successful and that will be used in this study is to develop limitations on industrial dischargers, either pretreatment requirements for nondiscrete dischargers or specific pollutant limits on wastewater quantities for discrete industrial dischargers. These limits can then be enforced either directly by the RWQCB or indirectly by that board or the SWRCB through the municipal dischargers grant program.

In addition, this management plan must consider the increasing tendency of major wet industries with discrete discharges to develop closed-cycle systems with dramatic reductions in the quantities of liquid waste discharged. This management plan will also consider the effect of implementing pretreatment requirements for nondiscrete dischargers on the production of hazardous solid waste. In other words, the net effect on the pretreatment requirements could be, in some cases, to convert liquid industrial waste to hazardous solid industrial waste.

TASK: Describe data needs.

PURPOSE: Identify the necessity for and type of data which needs to be collected and analyzed in relation to discrete and non-discrete industrial discharges, including residual hazardous wastes.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to Month 2.

INPUTS: Work plan technical literature, previous reports, RWQCB files, Class I site records and Department of Health records.

MAJOR PRODUCTS AND EVENTS: A list of additional data which needs to be collected regarding industrial discharges which does not exist; a list of data, along with location, which needs to be analyzed.

METHOD: Read reports and literature; review records of public agencies to determine extent and utility of existing data.

COORDINATION REQUIREMENTS: All other tasks in industrial management; tasks on data management; tasks on assessment/evaluation; tasks on water quality model.

BUDGET: \$2,900.

TASK: Describe pretreatment requirements for nondiscrete industrial dischargers.

PURPOSE: Collect and compile existing and proposed pretreatment requirements of local municipal dischargers, RWQCB, SWRCB, EPA and other groups (including public).

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to Month 4.

INPUTS: Copies of municipal ordinances and regulations, model ordinance prepared by CWPCA, guidelines of RWQCB and SWRCB, and EPA pretreatment regulations; public ideas on pretreatment.

MAJOR PRODUCTS AND EVENTS: A list for each municipal discharger of the pretreatment requirements for each significant industrial category.

METHOD: Review of all items described under "inputs" above to determine numerical limits and prohibitions of various constituents.

COORDINATION REQUIREMENTS: Local dischargers, RWQCB, SWRCB, EPA, BASSA, BALIA; tasks on data management, municipal facilities and hazardous waste; public input.

BUDGET: \$4,400.



TASK: Determine effect of pretreatment requirements on industrial operations and costs.

PURPOSE: Translate industrial pretreatment requirements for nondiscrete industries into specific effects on industry both in terms of systems required and the cost of construction and operation of those systems.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 4 to Month 7.

INPUTS: Previous task on description of pretreatment requirements for nondiscrete industries, technical literature, EPA reports on economic impacts of treatment systems.

MAJOR PRODUCTS AND EVENTS: A list of candidate alternative systems for each industrial category for each municipal service area which can meet pretreatment requirements; the construction and operation costs for these systems; determination of residual hazardous wastes or by-products produced as a result of these systems; determination of resources (chemicals, energy) required for these systems.

METHOD: Literature search, including EPA documents, to determine available technology to meet requirements for each industrial type; development of costs for each industry or type based on unit costs in the literature; determination of residuals generated and resources used by means of literature search.

COORDINATION REQUIREMENTS: Previous task on description of pretreatment requirements for nondiscrete industries; hazardous wastes.

BUDGET: \$7,300

TASK: Assess significant effects.

PURPOSE: Assess the significant economic and non-economic effects of alternative systems as a result of pretreatment requirements for non-discrete industries.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 7 to Month 10.

INPUTS: Previous tasks on description and effects of pretreatment requirements; output from PLUM/Series 3 on industrial development.

MAJOR PRODUCTS AND EVENTS: Analysis of the economic and non-economic impact of pretreatment alternatives on industries, considering such items as product pricing, relocation, employment, cumulative costs to region, increase in hazardous wastes, increase in resource usage, and availability of reusable water.

METHOD: Development of a matrix of significant economic and non-economic impacts such as described in previous section on products; determination of dollar costs in each impact category by both industrial category and by municipal service area; determination of non-dollar costs (and benefits) using assessment/evaluation techniques developed elsewhere; summary assessment of dollar and non-dollar effects, subdivided by industrial type and location.

COORDINATION REQUIREMENTS: Previous tasks on pretreatment; population and land use tasks; local policies; assessment/evaluation tasks; tasks on hazardous wastes.

BUDGET: \$11,600

TASK: Determine effect of pretreatment on water quality and 201 facilities.

PURPOSE: Project the effects of pretreatment on water quality facilities operations and translate these effects into effects on receiving water quality.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 6 to Month 9.

INPUTS: Previous tasks on pretreatment; tasks on existing 201 facilities; data on existing treatment plant quality of influent and effluent; population and land use tasks.

MAJOR PRODUCTS AND EVENTS: A comparison of 201 facilities influent or effluent under existing conditions and under conditions of alternative pretreatment systems; an analysis of the differences in these quantities on plant operation; an analysis of these differences translated into effluent water quality and receiving water effects, including impacts on flow and reclamation systems; an analysis of allowing municipal plants to treat some industrial wastes at the plant rather than at the industry.

METHOD: Obtain data on existing and planned 201 facility influent and effluent without significant pretreatment; develop data on proposed loadings to plants with pretreatment and compare; determine critical constituents bearing increased reclamation and relate to pretreatment systems; review task on effects of existing and proposed water quality facilities on receiving waters to determine changes resulting from pretreatment.

COORDINATION REQUIREMENTS: Previous tasks on pretreatment; tasks on existing and planned 201 facilities; tasks on water quality effects of 201 facilities; tasks on population and land use; water supply; reclamation and conservation.

BUDGET: \$8,700



TASK: Formulate and describe pretreatment requirements alternatives.

PURPOSE: Based on previous analysis, formulate and describe pretreatment requirements for each industrial category and each service area in the region.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 10 to Month 12.

INPUTS: All previous tasks on pretreatment.

MAJOR PRODUCTS AND EVENTS: Recommendation of specific pretreatment strategies for each industry type and each location which can be developed into control measures.

METHOD: Reconciliation of information developed in previous tasks considering effects of economic and non-economic impacts to industries and the region's economy, effects on municipal treatment plant operation, effects on bay water quality and effects on water reclamation; analysis of implementability and effectiveness of alternatives; determination of conflicts and problems which may result.

COORDINATION REQUIREMENTS: Tasks on 201 facilities; implementation/financial mechanisms; control measures; population and land use; local development policies; public.

BUDGET: \$4,400

TASK: Assess and evaluate pretreatment requirements.

PURPOSE: Assess and evaluate the effectiveness and impacts of both current and proposed alternative pretreatment requirements.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to Month 13.

INPUTS: Previous tasks on pretreatment; assessment/evaluation tasks.

MAJOR PRODUCTS AND EVENTS: An assessment and evaluation of the impacts of current pretreatment systems; assessment and evaluation of the impacts of proposed alternative pretreatment requirements.

METHOD: Use of assessment/evaluation techniques developed elsewhere; analysis will consider impacts upon industry types, local development and economy, municipal facilities, regional water quality, hazardous waste, regional economy, and associated secondary impacts.

COORDINATION REQUIREMENTS: Assessment/evaluation tasks; hazardous wastes; population and land use; local policies; implementation/financial mechanisms; public.

BUDGET: \$5,800

TASK: Describe existing discrete industrial waste dischargers.

PURPOSE: Identify size, type and location of each discrete industry, quality and quantity of waste produced.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to Month 4.

INPUTS: Basin Plan data; RWQCB NPDES permits; waste hauler reports.

MAJOR PRODUCTS AND EVENTS: Map of discrete industries showing location of outfall; table of data giving name, location, size, type of products, quality and quantity of process and non-process wastewater, amount of hazardous waste generated, and planned or existing capacity in terms of output percentage.

METHOD: Literature search, review of NPDES permits, review of information in Basin Plan and waste haulers reports; development of unit coefficients and figures and estimates of total amounts for items in table.

COORDINATION REQUIREMENTS: Local policies; land use and population, data needs.

BUDGET: \$2,900



TASK: Identify future locations for discrete industrial dischargers.

PURPOSE: Identify land areas where discrete industries will probably or could be located in the future.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 4 to Month 7.

INPUTS: Local development policy; Series 3/PLUM outputs; public.

MAJOR PRODUCTS AND EVENTS: Listing of tentative areas where industries may be located in the future; size and type of industries which may be located in those areas; staging of industrial development over time.

METHOD: Review local development policies of local governmental agencies; contact business and industrial trade associations; review assessors maps to determine which lands are owned by industrial corporations; determine danger of spills or emergencies; determine availability of required support systems for industry (land, water, labor, transportation); possible restrictions on land usage due to air quality; public input.

COORDINATION REQUIREMENTS: Public; land use and employment tasks; local development policies; air quality tasks.

BUDGET: \$4,400

TASK: Determine discharge limits for industrial facilities at each location or area.

PURPOSE: Develop trial quality and quantity criteria for discrete industrial discharges in the region.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 7 to Month 10.

INPUTS: Existing data on NPDES permits for industries; EPA effluent requirements on Best Available Technology and Best Practicable Technology; data on beneficial uses; tasks on trial water quality objectives public attitudes.

MAJOR PRODUCTS AND EVENTS: Recommended trial NPDES permits for industries based on type of industry and location.

METHOD: Analyze existing NPDES permits for industries; review EPA requirements for effluent limits; develop data on influence of other types of discharges such as nonpoint sources, surface runoff and municipal sources in the area of proposed industries; relate permit conditions to water quality objectives, obtain public attitudes.

COORDINATION REQUIREMENTS: Water quality model tasks; tasks on surface runoff, nonpoint sources and municipal wastes; tasks on air quality; public.

BUDGET: \$5,800

TASK: Assess/Evaluate discharge limits for discrete industries.

PURPOSE: Assess and evaluate the trial NPDES permit conditions developed for industries in the previous task.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 10 to Month 13.

INPUTS: Previous tasks on discrete industries; assessment/evaluation tasks.

MAJOR PRODUCTS AND EVENTS: Recommendations on the utility of trial permit conditions developed in the previous; a list of analysis of significant impacts developed as a result of discharge limits.

METHOD: Use of assessment/evaluation procedures developed elsewhere in the 208 work program; testing of impacts on both industries and the region as a whole; consideration of economic and non-economic impacts such as relocation, product pricing, effect on water quality and beneficial uses, effect on local development policies and land use, effect on hazardous wastes, effect on employment, effect of spills or emergencies.

COORDINATION REQUIREMENTS: Hazardous waste tasks; land use and employment tasks; assessment/evaluation tasks.

BUDGET: \$5,800



TASK:: Characterize hazardous solid waste production.

PURPOSE: Determine the quantity and types of residual hazardous waste generated by implementation of alternative pretreatment measures by non-discrete industries and by discrete industrial treatment.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 4 to Month 6.

INPUTS: Data from hazardous waste tasks; other tasks on industrial discharges.

MAJOR PRODUCTS AND EVENTS: Revision or modification of estimates of hazardous wastes developed under tasks on hazardous waste.

METHOD: Review of work accomplished in tasks in hazardous wastes; incorporation of data from other tasks on pretreatment and industrial dischargers which determined types of treatment or pretreatment and characterized residuals that were generated; comparison of existing hazardous waste quantities to potential future quantities to determine significance of difference.

COORDINATION REQUIREMENTS: Hazardous waste tasks.

BUDGET: \$2,900

TASK: Develop institutional/financial mechanisms for industrial discharges.

PURPOSE: Describe the institutional and financial mechanisms necessary for the implementation of alternative control measures and for an assessment of their institutional and financial feasibility.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 10 to Month 13.

INPUTS: Previous tasks on industrial discharges; tasks on hazardous waste; institutional/financial mechanism tasks.

MAJOR PRODUCTS AND EVENTS: Recommended institutional and financial mechanisms required for implementation of control measures; an assessment of the feasibility of instituting such financial/institutional mechanisms.

METHOD: An analysis of financial/institutional mechanisms developed in other tasks to determine applicability; an evaluation/assessment of those alternative mechanisms that could be used to insure implementation of control measures; a determination of effects or impacts of alternative mechanisms.

COORDINATION REQUIREMENTS: Institutional/financial mechanisms tasks; assessment/evaluation tasks; previous tasks on industrial discharges.

BUDGET: \$5,800.

TASK: Describe continuing planning process.

PURPOSE: Describe those elements of the continuing planning process specific to the industrial discharges management plan.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to Month 13.

INPUTS: All previous tasks on industrial discharges; public input.

MAJOR PRODUCTS AND EVENTS: Identification of those specific issues which have not been resolved in relation to industrial discharges; determination of steps needed to lead to a resolution of unresolved issues; series of specific recommendations or programs, involving active industrial participation which could lead to increased industrial participation in solution to water quality and other environmental problems.

METHOD: Review of all previous tasks in industrial discharges to determine what issues are unresolved; a review of other for determination of scheduling needed to implement control measures.

COORDINATION REQUIREMENTS: Public input; EMTF; institutional/financial mechanism tasks.

BUDGET: \$2,900



TASK: Document industrial discharges plan.

PURPOSE: Document the management plan for industrial discharges; including pretreatment requirements for non-discrete dischargers, discharge limits for discrete industrial dischargers, institutional/financial mechanisms for both types as well as a description of the continuing planning process.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 13 to Month 14.

INPUTS: All previous tasks on industrial discharges.

MAJOR PRODUCTS AND EVENTS: Identification of locations, capacity, type, level of treatment, residual disposal options, schedules for compliance or construction, and cost estimates for industrial facilities and treatment and pretreatment systems; a regulatory program for the above; institutional/ financial mechanisms to accomplish the above; a continuing planning process which determines schedules and goals for unresolved issues.

METHOD: Review all previous tasks on industrial discharges and incorporate findings and recommendations; obtain public input and EMTF comments.

COORDINATION REQUIREMENTS: Public, EMTF, tasks on institutional/ financial mechanisms.

BUDGET: \$4,400

## WATER CONSERVATION, REUSE, AND SUPPLY

This program will begin with a consideration of water conservation because of its obvious impacts on the quantity and, in the case of industrial water use, quality of municipal discharges. Reuse will be considered as a logical extension of upgrading wastewater treatment. Water supply will be considered as an extension of conservation and reuse because of its impact on the quality of groundwater.

An entire management plan will probably not be developed for water conservation, reuse, and supply. Rather, work in this program will consider only the control measures, leaving the development of institutional-financial mechanisms for the continuing planning process.

TASK: Develop water hierarchy for the region

PURPOSE: The purpose of this task is to develop a hierarchy of water supply agencies.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 4

INPUTS: For the South Bay, a report entitled Water Quality Management Management Plan for South San Francisco Bay, includes a water hierarchy for Santa Clara and Southern Alameda County. For other parts of the region, the Water Quality Management Plan for the San Francisco Bay Basin and interviews with and records of Bay Area water agencies.

MAJOR PRODUCTS AND EVENTS: The major products are listed below:

- . a hierarchy for the region showing quantities of water transferred and the unit cost or price. This diagram should be annotated to show seasonal changes in quantity, cost, or price. It should also be keyed to map(s) of water agency service areas.
- . a second diagram identical to the first, except showing the mineral quality of water throughout the hierarchy.
- . a report listing general conclusions from the hierarchy and describing the method of developing it.

METHOD: The method of developing the hierarchy is essentially one of contacting water agencies to obtain the required information.

COORDINATION REQUIREMENTS: This will be coordinated with the tasks on providing data to be performed by water agencies.

BUDGET: \$15,000



TASK: Develop candidate conservation measures

PURPOSE: The purpose of this task is to outline for consideration by local water agencies measures for the conservation of water.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 4

INPUTS: Conservation programs of water agencies

MAJOR PRODUCTS AND EVENTS: The major product should be a list of specific conservation measures, the method of implementation, agencies that have attempted these measures in the Bay Area or elsewhere, and some general estimate of their effect in conserving water.

METHOD: The method of accomplishing this task will be to contact water agencies in the region and elsewhere if necessary to collect their program for water conservation. Existing literature should also be reviewed to identify other measures.

COORDINATION REQUIREMENTS: none other than above

BUDGET: \$15,000

TASK Develop procedures for projecting water needs

PURPOSE: The purpose of this task is to develop procedures for projecting water needs in anticipation of results of projections of employment, land use, and population from ABAG.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 4 to month 6

INPUTS: Specific format of population, land use, and employment projections from the group of tasks concerned with these projections. Also, other methods used by water agencies or in various recent regional studies for water supply or wastewater.

MAJOR PRODUCTS AND EVENTS: A step-by-step procedure for developing water need projections based on the population, land use, and employment projections or other basic information.

METHOD: The method of accomplishing this task is to examine current land use, population, and employment estimates and water use to develop factors relating the two. Consideration should also be given to the need for changing the factors the future. It is also possible that this procedure will need to be supplemented by projection techniques not tied specifically to the population, land use, and employment projections developed by ABAG for use in this plan.

COORDINATION REQUIREMENTS: This task should be coordinated with the task on population, land use, and employment projections and on the municipal wastewater facilities task concerning projection of wastewater quantity and quality; the methods of projecting wastewater quantity and quality and water needs should be consistent to facilitate the analysis of reclamation and reuse systems in later tasks.

BUDGET: \$5,000

TASK: Identify reuse markets

PURPOSE: The purpose of this task is to identify the type, location, quantity, and quality requirements for various reuse markets in the Bay Area.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 3

INPUTS: Considerable work has already been accomplished on this task, especially in Santa Clara County and in the service area of the East Bay Municipal Utilities District. Reports for these agencies will serve as inputs as well as studies done by the Department of Health and in the San Francisco Bay Basin Plan.

MAJOR PRODUCTS AND EVENTS: The product of this task should be an annotated map of the region showing the identity and location of potential reuse markets. This map should be accompanied by a table including characteristics of each market in terms of quality and quantity requirements, future need for reclaimed water, price or cost of existing supply, seasonal or other variations in demands.

METHOD: The method of accomplishing this task is to review past reports and to update these by discussions with key agency or industry persons. Consideration should also be given to work in progress by the State Water Resources Control Board on the domestic reuse of reclaimed wastewater and to criteria for ground-water recharge of reclaimed water now being developed by the State Health Department.

COORDINATION REQUIREMENTS: This task should be coordinated with local agency tasks on current and future land use to identify potential locations for agriculture of water-using industries.

BUDGET: \$8,000



TASK: Formulate reclamation/reuse alternatives

PURPOSE: The purpose of this task is to connect wastewater dischargers with the reuse market by describing the necessary facilities and operations required for such connections.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 3 to month 6

INPUTS: Tasks on identifying reuse markets and on the collection and updating of current 201 facilities plans.

MAJOR PRODUCTS AND EVENTS: The product of this task should be an annotated map or maps of the region showing alternative reclamation/reuse schemes. These should be described in terms of the following:

- . Wastewater discharger agency
- . reuse agency or industry
- . major constraints on implementation of the alternative
- . required reclamation treatment
- . year in which the alternative could be implemented
- . water supply which would be displaced

METHOD: This task is relatively straightforward once the reuse markets and wastewater dischargers have been identified. Discussions should be held with critical agencies or industries to develop feasible alternative reuse schemes.

COORDINATION REQUIREMENTS: The development of the alternatives should be coordinated with critical agencies including affected water agencies, wastewater agencies, and users of water and the State Department of Health.

BUDGET: \$6,000

TASK: Describe future sources of supply

PURPOSE: The purpose of this task is to describe for the region the present and future sources of water supply.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 4

INPUTS: The data provision tasks to be performed by water agencies; San Francisco Bay Basin Plan.

MAJOR PRODUCTS AND EVENTS: The supply should be described in terms consistent with the water hierarchy developed in the previously developed task, that is, the major water supply aspects of the water hierarchy should be projected into the future. In addition, information should be provided on the institutional arrangements with respect to these supplies as well as estimates of the quality and quantity of the supplies.

METHOD: This task will be accomplished essentially by gathering information from water supply agencies. For supplies imported from the southern Delta, the effect of possible trans-Delta facilities (such as the Peripheral Canal) on quality and quantity should be considered. This task should also consider uncertainties concerning possible future sources of supply.

COORDINATION REQUIREMENTS: This task should be coordinated with the task on the development of the water hierarchy for the region.

BUDGET: \$5,000

TASK: Describe data needs

PURPOSE: The purpose of this task is to describe the need for collection and analysis of new water data to support this management plan.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 2

INPUTS: The tasks on data management and discussions with key water agencies.

MAJOR PRODUCTS AND EVENTS: A list of the specific types of data needed, locations to be sampled, and time and frequency of sampling.

METHOD: It is unlikely that much data will be needed in support of this management plan because the data collection programs of most water agencies are quite comprehensive. Some special data could be required on the mineral quality of wastewaters.

COORDINATION REQUIREMENTS: With the tasks on water quality data collection and the environmental data management system.

BUDGET: \$5,000

TASK: Project water needs

PURPOSE: The purpose of this task is to project water needs for the region.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 6 to month 9

INPUTS: The task on development of procedures for projecting water needs and the population, land use, and employment projections developed by ABAG.

MAJOR PRODUCTS AND EVENTS: The major products should be a set of water need curves for the major water agencies. The set of curves should cover the entire region and should be keyed to the water hierarchy developed in the preceding task. Needs should be projected to the year 2000. Indications should be given of ultimate future needs.

METHODS: The method of accomplishing this task is straightforward and consists of the application of projection procedures developed in the preceding tasks to projections developed at the regional level by ABAG.

COORDINATION REQUIREMENTS: none

BUDGET: \$5,000



TASK: Formulate regional water resources alternatives

PURPOSE: The purpose of this task will be to connect water supply, water demands, conservation alternatives developed by water agencies (see later task descriptions), and reclamation/reuse alternatives.

RESPONSIBILITY: ABAG

START AND COMPLETION DATA: Month 8 to month 11

INPUTS: Tasks on projection of water supply, water needs, conservation alternatives, and reclamation and reuse alternatives.

MAJOR PRODUCTS AND EVENTS: The major product should be a series of annotated maps showing alternative water resources schemes for the region. These maps should be accompanied by an abbreviated water hierarchy for at least the year 2000. The maps should be annotated to show the significant facilities required as well as the necessary institutional arrangements. Reasons or ground rules for formulating the alternatives should also be listed.

METHOD: The methods of accomplishing this task will be to analyze the outputs from tasks listed as inputs from this task and to discuss these with the critical water supply and wastewater agencies and regulatory agencies involved.

COORDINATION REQUIREMENTS: none other than those listed above

BUDGET: \$12,000

TASK: Develop conservation alternatives

PURPOSE: The purpose of this task is to develop for various subregions specific programs for the conservation of water.

RESPONSIBILITY: Selected water agencies

START AND COMPLETION DATE: Month 3 to month 7

INPUTS: Candidate conservation measures as developed by ABAG

MAJOR PRODUCTS AND EVENTS: For each water agency, a program for water conservation, including specific measures to be enacted, year in which the measures will begin, method of implementation, expected cost, anticipated effect on future water needs.

METHOD: This task essentially consists of examining each of the candidate water conservation measures developed by ABAG and any other measures deemed appropriate by the water agency. For each of the candidate conservation measures developed by ABAG that are not included in the final program, reasons must be given why the measure was not included

COORDINATION REQUIREMENTS: This task should be coordinated with the regional task on projection of water needs.

BUDGET: \$17,000

TASK: Provide data, monitor and review regional studies, provide assessment and evaluation information

PURPOSE: The purpose of this task is to provide input from major water agencies in the region to the development of a management plan for water conservation, reuse, and supply.

RESPONSIBILITY: Selected water agencies

START AND COMPLETION DATE: Month 0 to month 13

INPUTS: Outputs of regional task on the management plan for conservation, reuse, and supply

MAJOR PRODUCTS AND EVENTS: No specific products

METHOD: Various methods will be used including submittal of task outputs by ABAG to water agencies and progress meetings to be held at regular intervals.

COORDINATION REQUIREMENTS: Obvious

BUDGET: \$27,000

TASK: Assess/Evaluate

PURPOSE: The purpose of this task is to assess and evaluate the water resources alternative.

RESPONSIBILITY: ABAG

START AND COMPLETION DATA: Month 11 to month 13

INPUTS: Outputs from the task on formulation of water resources alternatives and from the assessment/evaluation procedures developed by ABAG

MAJOR PRODUCTS AND EVENTS: An assessment of water resources alternatives in accordance with assessment requirements developed at the regional level by ABAG.

METHOD: The method is straightforward and consists of applying assessment procedures to the descriptions of the water resources alternatives.

COORDINATION REQUIREMENTS: None, unless assistance on assessments is needed from the assessment/evaluation group of tasks performed by ABAG

BUDGET: \$10,000



TASK: Describe continuing planning process

PURPOSE: The purpose of this task is to describe those aspects of the continuing planning process particular to water conservation, reuse, and supply.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 11 to month 13

INPUTS: No specific task inputs

MAJOR PRODUCTS AND EVENTS: The product of this task will consist of a description of those aspects of the continuing planning process particular to this management plan.

METHOD: This task can be accomplished by first developing a familiarity with the decisions used in developing this management plan, with particular emphasis on the role of the water agencies.

COORDINATION REQUIREMENTS: This task should be coordinated with the support tasks provided by water agencies.

BUDGET: \$5,000

TASK: Document plan

PURPOSE: The purpose of this task is to document the management plan for water conservation, reuse, and supply.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 13 to month 14

INPUTS: All previous tasks in this management plan, especially the preceding task on assessment and evaluation of alternatives.

MAJOR PRODUCTS AND EVENTS: The major product will be a report describing concisely the selected alternatives or best alternatives for water conservation, reuse, and supply in the region. As mentioned elsewhere in the work program, this management plan will likely not include the institutional/financial mechanisms necessary for implementation of the plan. These will be developed in the continuing planning process. The management plan will include conservation programs, reclamation and reuse programs, and plans for future supply of water to the region, including supply schemes involving institutional rearrangement.

METHOD: The method of accomplishing this task will be to describe the preparation of the management plan and the management plan.

COORDINATION REQUIREMENTS: Coordination with water agencies should have been accomplished prior to documentation of the plan. Some additional coordination may be required for particular aspects of the plan in this task.

BUDGET: \$5,000

## SOLID WASTE

This management plan will include three interim plans.

The first interim plan will be a composite of the county solid waste management plans which primarily deal with municipal and agricultural wastes. This interim plan will also include products of other program tasks, such as control measures for solid waste disposal sites, an evaluation of currently available resource recovery systems, and recommendations on coordination of uniform solid waste reporting requirements and on the establishment of a regional clearinghouse serving producers and consumers of recovered materials.

The second interim plan specifically deals with hazardous waste. Hazardous wastes are defined in the California Health and Safety Code as "any waste material or mixture which is toxic, corrosive, flammable, or irritant, a strong sensitizer, which generates pressure through decomposition, heat or other means, if such a waste or mixture of wastes may cause substantial personal injury, serious illness or harm to wildlife, during or as a proximate result of any disposal of such wastes or mixture of wastes." This interim plan does not intend to be a comprehensive plan for hazardous wastes management. However, it will include management alternatives and recommendations on the establishment of future Class I sites for hazardous waste disposal in the region.

The third interim plan specifically deals with residuals from wastewater treatment processes. This interim plan will be based on the preliminary regional plan of the Regional Municipal Wastewater Solids Management Study led by the East Bay Municipal Utility District.

## Solid Waste

The following group of tasks describes the development of the interim solid waste management plan.

TASK: Develop a composite solid waste management plan for the region.

PURPOSE: To develop a composite solid waste management plan for the region.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 1 to Month 11.

INPUTS: Preliminary or final county solid waste management plans as required by SB 5. Findings of the BASWMP developed by the State Solid Waste Management Board (SSWMB).

MAJOR PRODUCTS AND EVENTS: A composite solid waste management plan for the region which will be based on the county solid waste management plans.

METHODS: Review and evaluate the county solid waste management plans and findings of the BASWMP. Compile the present and future waste generation rates in the county plans to develop the region-wide waste generation rates. Examine the present and proposed solid waste collection, transportation and disposal systems in each county. Determine conflicts, if any, among the county plans, and resolve conflicts if necessary. Combine the proposed collection, transportation, and disposal systems for each county to form a composite solid waste management plan for the region.

COORDINATION REQUIREMENTS: Participation of the group of county solid waste management plan directors. Cooperation of the State SWMB staff.

BUDGET: \$7,500

Note: (Composite of county plans) + (Products of other tasks in this section) = Interim Regional Solid Waste Management Plan



TASK: Develop recommendations for standardized data collection methods and coordination of reporting requirements of State and regional agencies.

PURPOSE: To develop recommendations on uniform requirements for measurement, reporting and recording quantities and composition of wastes and on coordination of reporting requirements of the State Solid Waste Management Board, State Health Department, Regional Water Quality Control Board, and Bay Area Air Pollution Control District.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to Month 11.

INPUTS: Current reporting requirements of the State and regional agencies.

MAJOR PRODUCTS AND EVENTS: Recommendations to the State Legislature for 1) statewide standards covering measurement of wastes and data collection, recording and reporting, and 2) coordination of reporting requirements for waste handling and landfill site operations.

METHODS: Evaluate current reporting requirements of the State and regional agencies. Document the need for coordinating these requirements. Meet with affected agencies to determine the feasibility of developing a standardized reporting format. Develop a standardized reporting format if feasible.

COORDINATION REQUIREMENTS: Participation of the counties and the State SWMB, State Health Department, Regional Water Quality Control Board and Bay Area Air Pollution Control District will be needed.

BUDGET: \$7,500

TASK: Identify sites where solid waste disposal has caused water quality or nuisance problems.

PURPOSE: To identify past and present sites where solid waste disposal has caused water quality or nuisance problems.

RESPONSIBILITY: The Regional Water Quality Control Board or the State Department of Health.

START AND COMPLETION DATE: Month 1 to Month 7.

INPUTS: County solid waste management plans. Previous surveys, reports, publications of the State Health Department and the Regional Water Quality Control Board on landfills in the Bay Region.

MAJOR PRODUCTS AND EVENTS: A list of sites where solid waste disposal has caused water quality or nuisance problems. A documentation of the type and extent of the problems at each site.

METHODS: Contract with the State Health Department or the Regional Water Quality Control Board to conduct on site surveys.

COORDINATION REQUIREMENTS: The survey has to be coordinated with the Regional Water Quality Control Board since the Board has been adopting requirements for all the existing landfill disposal sites based on findings of previous surveys or site reports.

BUDGET: \$15,000

TASK: Develop control measures for disposal sites.

PURPOSE: To identify the necessary controls to be established over the disposal of pollutants on land to protect ground and surface water quality as required by the 208 regulations.

RESPONSIBILITY: ABAG (or the contractor for the survey of the disposal sites).

START AND COMPLETION DATE: Month 7 to Month 11.

INPUT: Findings of survey of the disposal sites. Present landfill requirements of the Regional Water Quality Control Board.

MAJOR PRODUCTS AND EVENTS: A list of control measures. A description of the proposed actions necessary to achieve the control measures.

METHODS: Review and evaluate present landfill requirements of the Regional Water Quality Control Board, and the description of landfill sites in the county solid waste management plans. Correlate findings of the survey and the Regional Board requirements to determine the effectiveness of the requirements. If necessary, develop additional control measures and identify actions to achieve such measures.

COORDINATION REQUIREMENTS: Coordination of the development of control measures and the adoption of landfill requirements of the Regional Water Quality Control Board is desirable.

BUDGET: \$2,500

TASK: Evaluate information about currently available resource recovery systems.

PURPOSE: To give local governments better information for decisions on investment in resource recovery facilities.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to Month 11.

INPUTS: Findings of the Bay Area Solid Waste Management Project. Reports and publications on resource recovery systems.

MAJOR PRODUCTS AND EVENTS: An evaluation of the various resource recovery systems based on their technical feasibility and reliability, environmental safety, and social, economic and environmental impacts, including effects in air quality.

METHODS: Review and evaluate findings of the Bay Area Solid Waste Management Project related to resource recovery systems. Review and evaluate reports and publications on various resource recovery systems. If feasible, arrange site visits of pilot projects in California. Develop criteria to evaluate the resource recovery systems. Evaluate the resource recovery systems based on established criteria.

COORDINATION REQUIREMENTS: Participation of the county solid waste management plan directors is desirable. The BASWMP has proposed to prepare an evaluation of a number of candidate resource recovery systems. ABAG should work with the SWMB in the evaluation.

BUDGET: \$15,000



TASK: Develop recommendations on the establishment of a regional clearinghouse serving producers and consumers of recovered materials.

PURPOSE: To establish stable markets for products of county and subregional source separation and resource recovery programs.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to Month 11.

INPUT: Bay Area Council's preliminary survey and recommendations for the establishment of a regional clearinghouse serving producers and consumers of recovered materials. Sections of the county solid waste management plans related to resource or material recovery. Report of Solid Waste Management Board's marketing study.

MAJOR PRODUCTS AND EVENTS: Recommendations on the establishment of a regional clearinghouse.

METHODS: Review the Bay Area Council's survey and recommendations on the establishment of a regional clearinghouse. Review the State SWMB's marketing study report. Compile information on proposed programs for resource or material recovery in the region. Document the need for a regional clearinghouse. Develop procedures for the establishment of the clearinghouse. Formulate recommendations.

COORDINATION REQUIREMENTS: Coordinate with the Bay Area Council. Coordinate with the group of county solid waste management directors. Cooperation of State SWMB staff.

BUDGET: \$7,500

TASK: Assess/Evaluate

PURPOSE: To assess and evaluate the alternative control measures formulated in the preceding tasks.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to Month 13.

INPUTS: The composite solid waste management plan for the region. Control measures for solid waste disposal sites. The evaluation of currently available resource recovery systems. Recommendations on uniform reporting requirements. Recommendations on the establishment of a regional clearinghouse serving producers and consumers of recovered materials.

MAJOR PRODUCTS AND EVENTS: The environmental, social and economic impacts of the control measures,

METHODS: Establish procedures and criteria for evaluation of control measures. Utilize assessment and evaluation procedures and criteria developed in the assessment tasks.

COORDINATION REQUIREMENTS: Should be coordinated with those aspects of the assessment to be carried out at the regional level.

BUDGET: \$2,500

TASK: Describe continuing planning process.

PURPOSE: To develop a continuing planning process for solid waste management in the region.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to Month 13.

INPUTS: County solid waste management plans. Composite solid waste management plan for the region. Institutional and financial arrangements for other environmental management programs.

MAJOR PRODUCTS AND EVENTS: Process for the development of a regional solid waste management plan.

METHODS: Review of previous solid waste management planning efforts. Outline process to resolve technical, institutional, financial, and regulatory problems related to development of a regional system for multi-jurisdictional solid waste management and resource recovery sites and facilities.

COORDINATION REQUIREMENTS: Other continuing planning process tasks.

BUDGET: \$1,300

TASK: Document plan.

PURPOSE: To document the interim solid waste management plan.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 13 to Month 14.

INPUTS: The composite solid waste management plan for the region. Control measures for solid waste disposal sites. The evaluation of currently available resource recovery systems. Recommendations on coordination of uniform reporting requirements. Recommendations on the establishment of a regional clearinghouse serving producers and consumers of recovered materials. Products of the assess/evaluate tasks.

MAJOR PRODUCTS AND EVENTS: An interim solid waste management plan which will include the control measures and the institutional/financial and other actions necessary to implement the control measures. It will also include a description of a continuing planning process for the development of a comprehensive regional solid waste management plan.

METHODS: Compile products of all the input tasks.

COORDINATION REQUIREMENTS: Coordination with all input tasks.

BUDGET: \$2,500



### Hazardous Wastes

TASK: Review the findings of the Solid Waste Management Board Group I wastes -Class I sites study.

PURPOSE: To review the findings of the Solid Waste Management Board Group I wastes - Class I sites study being conducted pursuant to Assembly Concurrent Resolution (ACR) No. 79 in order to incorporate such findings as inputs to other hazardous waste program tasks.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to Month 3.

INPUTS: The Group I waste - Class I sites study.

MAJOR PRODUCTS AND EVENTS: A list of findings of the study that can be incorporated as inputs to other hazardous waste program tasks.

METHODS: Participate in the Bay Area Task Force of the study. Review and evaluate findings in the final report of the study due to the State Legislature by June 30, 1976.

COORDINATION REQUIREMENTS: ABAG participation in the Bay Area Task Force of the study.

BUDGET: \$1,300

TASK: Determine present and future production rates and existing management system for hazardous wastes.

PURPOSE: To determine present and future hazardous waste production rates and identify existing collection, transportation, treatment and disposal methods for hazardous wastes.

RESPONSIBILITY: Counties.

START AND COMPLETION DATE: Month 1 to Month 9.

INPUTS: Sections on hazardous wastes of the county solid waste management plans. Findings of the State SWMB Group I wastes - Class I sites study. Outputs of PLUM Model on locations of industries.

MAJOR PRODUCTS AND EVENTS: Present and future hazardous waste production rates in each county. A description of the existing practices for the labelling, storage, collection, transportation, treatment and disposal of hazardous wastes in each county.

METHODS: Review sections on hazardous wastes of the county plans and the findings of the Group I wastes - Class I sites study. Define hazardous wastes. Contract with each county to develop information on present and future waste generation rates as well as the existing practices for hazardous wastes. Surveys of the industrial sources of hazardous wastes to be conducted by the counties if necessary.

COORDINATION REQUIREMENTS: Support of the counties. Coordination of the industrial wastewater program tasks since the quantities of hazardous wastes generated by the pretreatment process of industrial wastewater will be estimated under this task.

BUDGET: \$75,300

TASK: Formulate management alternatives for hazardous wastes.

PURPOSE: To formulate labelling, storage, collection, transportation, treatment and disposal alternatives for hazardous wastes.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to Month 9.

INPUTS: Present and future production rates of hazardous wastes. Existing management systems for hazardous wastes.

MAJOR PRODUCTS AND EVENTS: Alternatives for labelling, storage, collection, transportation, treatment and disposal of hazardous wastes. Alternatives for recycling.

METHODS: Review data on present and future production rates of hazardous wastes. Review and evaluate existing management system for hazardous wastes. Review and evaluate reports and publications on alternatives for collection, transportation, treatment, recycling and disposal of hazardous wastes.

COORDINATION REQUIREMENTS: Close coordination between this task and the task of determining production rates and existing management system is needed since both tasks will be developed in parallel.

BUDGET: \$5,000

TASK: Develop recommendations on hazardous wastes.

PURPOSE: To develop recommendations on the labelling, storage, collection, transportation, treatment, recycling and disposal of hazardous wastes.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 9 to Month 11,

INPUTS: Findings of the State Group I wastes - Class I sites study. Present and future production rates of hazardous wastes. Existing management system for hazardous waste. Alternative management systems for hazardous wastes.

MAJOR PRODUCTS AND EVENTS: Recommendations on the labelling, storage, collection, transportation, treatment, recycling and disposal of hazardous wastes.

METHODS: Review and evaluate management alternatives.

COORDINATION REQUIREMENTS: Coordination with State SWMB. Each county gathering information on production rates and existing management system. Task of developing management alternatives.

BUDGET: \$2,500



TASK: Determine capacity of existing Class I sites.

PURPOSE: To determine the remaining capacity of the three Class I sites in the region.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to Month 4.

INPUTS: Solano and Contra Costa County solid waste management plans.

MAJOR PRODUCTS AND EVENTS: An estimation of the remaining capacity of each existing Class I site.

METHODS: Review the sections on Class I sites of Solano and Contra Costa County solid waste management plans. Conduct interview with operators of the Class I sites to verify information regarding the capacity of the sites.

COORDINATION REQUIREMENTS: This task should be coordinated with other tasks on the determination of present and future production rate of hazardous wastes.

BUDGET: \$700

TASK: Identify potential Class I site areas.

PURPOSE: To identify potential areas in the region where Class I sites for hazardous wastes could be established.

RESPONSIBILITY: Counties.

START AND COMPLETION DATE: Month 1 to Month 4.

INPUTS: USGS reports, publications and maps on potential landfill sites in the region. Present and future production rates of hazardous wastes.

MAJOR PRODUCTS AND EVENTS: Maps to indicate locations of potential Class I site areas in the region.

METHODS: Contract with each county to identify potential Class I site areas based on land capability. Review reports, publications and maps on potential landfill sites in the region.

COORDINATION REQUIREMENTS: This task should be coordinated with other tasks to be performed by the counties and with land capability work in the 701-assisted work program.

BUDGET: \$10,000

TASK: Identify investigations needed to establish suitability of potential Class I site areas.

PURPOSE: To determine the hydrological and geological investigations needed to establish suitability of the potential Class I site areas identified in the previous tasks.

RESPONSIBILITY: USGS.

START AND COMPLETION DATE: Month 4 to Month 9.

INPUTS: Requirements for Class I site. List of potential Class I site areas identified by the counties.

MAJOR PRODUCTS AND EVENTS: A preliminary evaluation of each potential Class I site area identified. A scope of work for the hydrological and geological investigations needed for establishing the suitability of each potential site area.

METHODS: Evaluate each potential Class I site areas based on the requirements for protection of groundwater and surface water. Conduct on site survey. Determine further investigations needed for the site development.

COORDINATION REQUIREMENTS: Coordination with the task of identifying potential Class I site areas.

BUDGET: \$30,100.

TASK: Develop recommendation on the establishment of future Class I sites.

PURPOSE: To develop recommendations on the institutional and financial arrangements for the establishment of future Class I sites.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 9 to Month 11.

INPUTS: A list of potential Class I site areas. A scope of work for the hydrological and geological investigations needed to establish the suitability of each potential site area.

MAJOR PRODUCTS AND EVENTS: A list of tasks needed for the establishment of a future Class I site. Alternative institutional and financial arrangements for the establishment of the Class I site. Recommendations for the establishment of the future Class I site.

COORDINATION REQUIREMENTS: Coordination with the task on institutional and financial arrangements.

BUDGET: \$2,500



TASK: Assess/Evaluate

PURPOSE: To assess and evaluate the alternative control measures formulated in the preceding tasks.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 11 to Month 13.

INPUTS: Alternative control measures for hazardous wastes.  
Information on future Class I sites.

MAJOR PRODUCTS AND EVENTS: The environmental, social and economic impacts of the control measures.

METHODS: Establish procedures and criteria for evaluation of control measures. Utilize assessment and evaluation procedures and criteria developed by the assessment consultants.

COORDINATION REQUIREMENTS: Should be coordinated with those aspects of the assessment to be carried out at the regional level.

BUDGET: \$2,500

TASK: Describe continuing planning process.

PURPOSE: To identify a continuing planning process for hazardous waste management in the region.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 9 ro Month 11.

INPUTS: Recommendations on hazardous waste management. Recommendations on establishment of future Class I sites.

MAJOR PRODUCTS AND EVENTS: Process for the development of a regional hazardous waste management plan.

METHODS: Review previous planning efforts on hazardous wastes. Outline process to resolve technical, institutional, financial and regulatory problems in hazardous waste management planning.

COORDINATION REQUIREMENTS: Other continuing planning process tasks.

BUDGET: \$1,300

TASK: Document plan.

PURPOSE: To document the interim hazardous waste management plan developed in the preceding tasks.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 13 to Month 14.

INPUT: Recommendations on hazardous waste management. Recommendations on establishment of future Class I sites. Products of the assess/evaluate task.

MAJOR PRODUCTS AND EVENTS: An interim hazardous wastes management plan which will include the control measures and the institutional/financial and other actions necessary to implement the control measures. It will also include a description of a continuing planning process for the development of a comprehensive regional hazardous waste management plan.

METHODS: Compile products of all the input tasks.

COORDINATION REQUIREMENTS: Coordination will all input tasks.

BUDGET: \$2,500

## Wastewater Residuals

TASK: Assist the regional wastewater residuals study.

PURPOSE: To assist the regional wastewater residuals study led by EBMUD in the development of the work plan to assure consistency with the 208 study.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to Month 5.

INPUTS: Co-processing alternatives with solid waste.

MAJOR PRODUCTS AND EVENTS: A work plan for the regional wastewater residuals study that will be consistent with the 208 study.

METHODS: Participate in the policy board and the staff advisory committee of the study. Provide input in the work plan development with respect to: 1) assuring consistency between 208 work plan and the regional study work plan; 2) consideration of all wastewater residuals generated in the region; 3) consideration of co-processing alternatives for residuals and other solid waste; 4) use of common data base; 5) evaluation of effect of 208 control measures on production of residuals; 6) use of 208 assessment/evaluation procedures for development of residual management alternatives.

COORDINATION REQUIREMENTS: Bay Area Solid Waste Management Project of the State SWMB.

BUDGET: \$2,500



TASK: Monitor development of the regional wastewater residuals management plan.

PURPOSE: To monitor the development of the regional wastewater residuals management plan to assure that a preliminary plan will be produced in time so that it can be incorporated into the 208 interim residuals management plan.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 5 to Month 15.

INPUTS: 208 work plan and schedule.

MAJOR PRODUCTS AND EVENTS: Assurance of a preliminary regional wastewater residuals management plan that can be incorporated into the 208 interim residuals management plan.

METHODS: Participate in the policy board and the staff advisory committee of the study.

COORDINATION REQUIREMENTS: Cooperation of the five agencies engaged in the residuals study (EBMUD, San Francisco, San Jose, Central Contra Costa Sanitary District and BASSA).

BUDGET: \$2,500

TASK: Monitor development of the residuals management facilities plan.

PURPOSE: To monitor the development of the residual management facilities plan to assure consistency with the 208 environmental management plans.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 15 to Month 24.

INPUTS: The regional wastewater residuals management plan.  
Preliminary 208 environmental management plan.

MAJOR PRODUCTS AND EVENTS: Assurance of consistency between the facilities plan and the 208 environmental management plans.

METHODS: Participate in the policy board and the advisory committee of the residual management study.

COORDINATION REQUIREMENTS: Development of preliminary 208 environmental management plans. Cooperation of the five agencies engaged in the study.

BUDGET: \$2,500

TASK: Describe interim regional residuals management plan.

PURPOSE: To describe the 208 interim regional residuals management plan based on the preliminary plan of the EBMUD regional residual study.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 9 to Month 11.

INPUTS: The preliminary plan of the EBMUD regional residuals study.

MAJOR PRODUCTS AND EVENTS: A description of the 208 interim regional residuals management plan.

METHODS: Review and evaluate the preliminary plan for the residuals study.

COORDINATION REQUIREMENTS: The preliminary plan has to be developed within the 208 time schedule.

BUDGET: \$2,500

TASK: Assess/evaluate.

PURPOSE: To assess and evaluate the alternative control measures formulated in the interim regional residuals management plan.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to Month 13.

INPUTS: Alternative control measures for wastewater residuals.

MAJOR PRODUCTS AND EVENTS: The environmental, social and economic impacts of the control measures.

METHODS: Establish procedures and criteria for evaluation of control measures. Utilize assessment and evaluation procedures and criteria developed by the assessment task.

COORDINATION REQUIREMENTS: Should be coordinated with the overall assessment and evaluation task.

BUDGET: \$2,500



TASK: Document plan.

PURPOSE: To document the interim regional residuals management plan developed in the preceding tasks.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 13 to Month 14.

INPUT: The description of the interim regional residuals management plan. Products of the assess/evaluate task.

MAJOR PRODUCTS AND EVENTS: An interim regional residuals management plan which will include the control measures and institutional/financial and other actions necessary to implement the control measures. It will also include a description of a continuing planning process for the development of a comprehensive regional wastewater residuals management plan.

METHOD: Compile products of all the input tasks. Develop continuing planning process.

COORDINATION REQUIREMENTS: Coordination with all the input tasks.

BUDGET: \$2,500

## SPECIAL STUDIES

Certain important aspects of environmental management cannot be conveniently fit into the structure for the development of management plans; these aspects will be the subjects of special studies.

Special studies will rely primarily on the collection and analysis of existing information. The overall purpose of the special studies will set forth in a concise, objective way what is now known about certain special aspects of environmental management. These special studies are described on the following pages.

## DELTA OUTFLOW

The quality and quantity of Delta outflow has more effect on the waters of San Francisco Bay than any other single factor. Studies have shown, for example, that high Delta outflows can cause salinity changes in the southern reach of as much as 50 percent. Significant questions still remain of the effect of the proposed agricultural drain on the Bay system. This special study will attempt to compile all previous work that is relevant to the relationship of Delta outflow, including agricultural drainage, to conditions in the Bay. It will provide a state of the science review of this relationship.

TASK: Describe data needs

PURPOSE: The purpose of this task is to describe the need for collection and analysis of new water quality data in support of this special study.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 2

INPUTS: Information on data availability from data management system group of tasks

MAJOR PRODUCTS AND EVENTS: A list of the specific types of data needed, locations to be sampled, and time and frequency of sampling.

METHOD: Review existing data; discuss data needs with USGS, the Regional Water Quality Control Board, and Basin Plan staff

COORDINATION REQUIREMENTS: Tasks on water quality data collection and the environmental data management system

BUDGET: \$4,000



TASK: Review and describe past studies

PURPOSE: The purpose of this task is to prepare concise summaries of all past studies of the effects of Delta outflow and agricultural drainage on the Bay.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 4

INPUTS: Past reports

MAJOR PRODUCTS AND EVENTS: A technical memorandum consisting of:

- a bibliography of past studies

- conclusions of each study

- a description of the method of conducting each study

- any obvious conclusions derived from the results of all studies

METHOD: Review all past studies, including, but not limited to, the following:

- U. C. Comprehensive Studies

- San Francisco Bay Basin Plan

- Bay-Delta Water Quality Control Program, including task reports

- published and unpublished work of USGS

- self-monitoring programs of the Regional Water Quality Control Board

- EPA (formerly FWQA) studies, including data collection in support of enforcement proceedings

- special studies commissioned by dischargers, especially those by San Francisco.

COORDINATION REQUIREMENTS: Tasks on water quality data collection and the environmental data management system

BUDGET: \$23,000

TASK: Analyze existing data, coordinate with other work

PURPOSE: The purpose of this task is to analyze existing data and to draw conclusions concerning the effects of Delta outflow, including agricultural drainage, on the Bay.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 4 to month 14

INPUTS: Information from preceding task

MAJOR PRODUCTS AND EVENTS: An interim report prepared by month 10 listing preliminary conclusions; this report will be followed by a final report consisting of the following:

final conclusions

bibliography

summaries of past work

methods of analysis used in this study

recommendations for additional work

METHOD: In addition to the review of existing data and reports, discussions should be held with ten to twenty persons with experience in Bay-Delta water quality issues. These persons would represent the following agencies:

USGS

the State and Regional Boards

State Department of Water Resources

U. S. Bureau of Reclamation

Metropolitan Water District (Southern California)

Hydroscience, Inc.

Water Resources Engineers

Brown & Caldwell

State Department of Fish and Game

U. S. Army Corps of Engineers

The study should consider at least the following:

the "null zone"

the relationship between the quality of Delta outflow and salinity changes in the Bay

effect of outflow quantity and constituents on turbidity throughout the Bay

projected quantities of Delta outflow

options for agricultural drainage discharge

general effects of agricultural and land use practices in the Delta and Central Valley on conditions in the Bay

The study should determine, based on existing data, the conditions of Delta outflow that have adverse effects on the Bay.

COORDINATION REQUIREMENTS: These will depend on the progress made in the study. At a minimum, there will be coordination with the tasks on study management and administration.

BUDGET: \$53,000

## SHELLFISH

The achievement of "fishable and swimmable" waters is the primary goal of the Water Pollution Control Amendments of 1972. To make San Francisco Bay fishable will require that restrictions on the harvesting of shellfish during parts of the year be removed. The restrictions are necessary to protect public health because shellfish beds are contaminated by a variety of sources of pollution. This special study will analyze existing data to attempt to determine the specific reasons why existing and possible future shellfish beds are contaminated.



TASK: Describe data needs.

PURPOSE: The purpose of this task is to describe the need for collection and analysis of new water quality data in support of this special study.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATES: Month 0 to Month 2.

INPUTS: Information on data availability from the data management system group of tasks.

MAJOR PRODUCTS AND EVENTS: A list of the specific types of data needed; locations to be sampled; and time and frequency of sampling.

METHOD: Review existing data, discuss data needs with the State Department of Health, the Regional Water Quality Control Board., and the persons involved in the preparation of the San Francisco Bay Basin Plan.

COORDINATION REQUIREMENTS: Tasks on water quality data collection and environmental data management system.

BUDGET: \$4,000.00.

TASK: Review and describe past studies.

PURPOSE: The purpose of this task is to prepare concise summaries of all past studies relevant to this special study.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to month 4.

INPUTS: Past reports.

MAJOR PRODUCTS AND EVENTS: The major product will be a technical memorandum consisting of the following:

- bibliography of past studies

- conclusions of each study

- a brief description of the method by which each study is conducted

- obvious additional conclusions to be drawn from the results of all studies

METHOD: Review all past studies including, but not limited to, the following:

- San Francisco Bay Basin Plan

- studies by the Bureau of Sanitary Engineering, State Department of Health

- U. C. Comprehensive Studies

- Bay-Delta Water Quality Control Program, including task reports

- published and unpublished work of USGS

- self-monitoring programs of the Regional Water Quality Control Board

- EPA (formerly FWQA) studies, including data collection in support of enforcement proceedings

- special studies commissioned by dischargers, especially those in San Mateo County

COORDINATION REQUIREMENTS: Task on water quality data collection and the environmental data management system.

BUDGET: \$ 8,000.00.

TASK: Analyze data, coordinate with other work.

PURPOSE: The purpose of this task is to analyze the existing data and to draw conclusions concerning the contamination of existing or potential shellfish beds.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 4 to month 14.

INPUT: Information from preceding tasks.

MAJOR PRODUCTS AND EVENTS: An interim report prepared by month 10 listing preliminary conclusions. This report will be followed by a final report consisting of the following:

- Final conclusions
- Bibliography
- Summary of past work
- Methods of analysis used in this study
- Recommendations for additional work

METHOD: In addition to the review of existing data and reports, discussion should be held with key individuals with experience related to this special study. This discussion should not be restricted to persons familiar only with San Francisco Bay.

The study should consider at least the following:

- Specific evidence of contamination
- Contaminant accumulation by shellfish
- The relative importance of sources of contamination including municipal discharges, industrial discharges, surface runoffs, and bottom deposits
- The existing and potential size and harvest of shellfish beds
- The specific type of shellfish and the economic and ecological significance of each type

COORDINATION REQUIREMENTS:.. Work should be coordinated with the group of tasks on the surface runoff management plan, municipal wastewater facilities management plans, nonpoint sources other than surface runoff management plans, industrial discharges management plan and with the group of tasks concerning integration of management plans.

BUDGET: \$ 18,000.00.

## ALGAL BLOOMS

The potential for serious problems with algal blooms (or eutrophication as it is sometimes referred to) has been a matter of concern in the Bay Area for the past 10 to 15 years. Numerous other large bodies of water have experienced this problem because of sharp increases in algal nutrients as a result of man's activities. As mentioned in the section on products there is already some evidence problems resulting from the growth of algae are on the increase.

This special study will provide a concise assessment of the current situation based on trends in the near past. It will also examine, in coordination with the special study on Delta outflow, the possible effect of agricultural drainage from the Central Valley on the growth of algae in the Bay.



TASK: Describe data needs

PURPOSE: The purpose of this task is to describe the need for collection and analysis of new water quality data in support of this special study.

RESPONSIBILITY: ABAG

START AND COMPLETION DATES: Month 0 to Month 2

INPUT: Information on data availability from Data Management System group of tasks.

MAJOR PRODUCTS AND EVENTS: A list of the specific types of data needed; locations to be sampled, and time and frequency of sampling.

METHOD: Review existing data; discuss data needs with key individuals in those firms which have applied mathematical models to the problem of eutrophication, with USGS, and the Regional Water Quality Control Board.

COORDINATION REQUIREMENTS: Special study on Delta outflow, tasks on water quality data collection and environmental data management system.

BUDGET: \$4,000

TASK: Review and describe past studies

PURPOSE: The purpose of this task is to prepare concise summaries of all past studies relevant to this special study.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to Month 4

INPUTS: Past reports

MAJOR PRODUCTS AND EVENTS: The major product will be a technical memorandum consisting of the following:

- bibliography of past studies

- conclusions of each study

- a brief description of the method by which each study is conducted

- obvious additional conclusions to be drawn from the results of all studies

METHOD: Review all past studies including, but not limited to the following:

- U. C. Comprehensive Studies

- San Francisco Bay Basin Plan

- Bay-Delta Water Quality Control Program, including past reports

- self-monitoring programs of the Regional Water Quality Control Board

- EPA (formerly FWQA) studies, including data collection in support of enforcement proceedings

- studies on biostimulation and toxicity conducted by the Department of Fish and Game, the Department of Water Resources, and others

COORDINATION REQUIREMENTS: The task on water quality data collection and the environmental data management system.

BUDGET: \$10,000

TASK: Analyze data, coordinate with other work

PURPOSE: The purpose of this task is to analyze existing data and to draw conclusions concerning existing and potential algal blooms in the Bay.

RESPONSIBILITY: ABAG

START AND COMPLETION DATA: Month 4 to Month 14

INPUTS: Information from the preceding group of tasks

MAJOR PRODUCTS AND EVENTS: An interim report prepared by month 10 listing preliminary conclusions. This report will be followed by a final report consisting of the following:

- final conclusions

- bibliography

- summary of past work

- methods of analysis used in this study

- recommendations for additional work

METHOD: In addition to the review of existing data and reports, discussions should be held with regional and national experts on the question of algal blooms or eutrophication.

The study should consider at least the following:

- the location and time and frequency of occurrence of algae problems in the waters of the region, with particular emphasis on the Bay

- the source and quantity of nutrient loads to the Bay, including, if possible, trace nutrients or growth factors

- the effect of turbidity increases or decreases on algal growth

- the effect of temperature on algal growth

- methods of control of problems

COORDINATION REQUIREMENTS: This study should be closely coordinated with a study on Delta outflow and with the management plans that affect the discharge of nutrients. It should also be coordinated with the tasks on study management and administration.

BUDGET: \$36,000

## DUNGENESS CRABS

Evidence indicates that the population of Dungeness crabs in the ocean waters off the Golden Gate has declined, but there is considerable uncertainty about the cause of this decline. The purpose of this special study is to investigate the incidence and cause of the suspected decline in the Dungeness crab population.



TASK: Describe data needs.

PURPOSE: The purpose of this task is to describe the need for collection and analysis of new water quality data in support of this special study.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to Month 2.

INPUTS: Information on data availability from the data management system group of tasks.

MAJOR PRODUCTS AND EVENTS: A list of the specific type of data needed, locations to be sampled, and time and frequency of sampling.

METHOD: Review existing data; discuss data needs with Department of Fish and Game and the Regional Quality Control Board.

COORDINATION REQUIREMENTS: Tasks on water quality data collection and environmental data management system.

BUDGET: \$4,000

TASK: Review and describe past studies.

PURPOSE: The purpose of this task is to prepare concise summaries of all past studies concerning Dungeness crabs in this region and, where relevant, elsewhere.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to Month 4.

INPUTS: Past reports.

MAJOR PRODUCTS AND EVENTS: A technical memorandum consisting of the following:

- . A bibliography of past studies
- . Conclusions of each study
- . A description of the method by which each study was conducted
- . Obvious conclusions derived from the results of all studies

METHOD: Review all past studies including, but not limited to, the following: Special studies commissioned by dischargers and, especially, those by San Francisco.

COORDINATION REQUIREMENTS: Tasks on water quality data collection and the environmental data management system.

BUDGET: \$6,000

TASK: Analyze data, coordinate with other work.

PURPOSE: The purpose of this task is to analyze all existing data relevant to Dungeness crabs and to draw conclusions concerning the incidence and causes for the decline in the Dungeness crab population.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 4 to Month 14.

INPUTS: Information from preceding tasks.

MAJOR PRODUCTS AND EVENTS: An interim report prepared by month 10 listing preliminary conclusions. This report will be followed by a final report consisting of the following:

- . Final conclusions
- . Bibliography
- . Summaries of past work
- . Methods of analysis used in this study
- . Recommendations for additional work

METHOD: In addition to the review of existing data and reports, discussion should be held with regional and national experts on Dungeness crabs, including persons from the State Department of Fish and Game and staff personnel involved in marine studies for the City and County of San Francisco.

The study should consider at least the following:

- . Past and present commercial catches of crab and, if possible, specific locations of these catches
- . Specific evidence and support of the decline of Dungeness crab population
- . Principal causes of the decline, including commercial fishing, pollution, changes in the character of Delta or Bay outflow, changes in bottom characteristics.

COORDINATION REQUIREMENTS: Special studies of Delta outflow and shellfish; tasks on study management and administration.

BUDGET: \$10,000

## FISH KILLS

There have been several recent major fish kills in the Bay. Most of these have occurred in the north Bay area. The purpose of this special study is to investigate the incidents of fish kills and to attempt to determine, based on existing data, their causes.



TASK: Describe data needs

PURPOSE: The purpose of this task is to describe the need for collection and analysis of new water quality data in support of this special study.

RESPONSIBILITY: ABAG

START AND COMPLETION DATES: Month 0 to month 2

INPUTS: Information on data availability from data management system group of tasks.

MAJOR PRODUCTS AND EVENTS: A list of the specific types of data needed, locations to be sampled, and time and frequency of sampling.

METHOD: Review existing data; discuss data needs with Department of Fish and Game and Regional Water Quality Control Board.

COORDINATION REQUIREMENTS: Tasks on water quality, data collection, and the environmental data management system.

BUDGET: \$4,000

TASK: Review and describe past studies

PURPOSE: The purpose of this task is to prepare concise summaries of all past studies or data collection efforts related to fish kills in the Bay.

RESPONSIBILITY: ABAG

START AND COMPLETION DATES: Month 1 to Month 4

INPUTS: Past reports

MAJOR PRODUCTS AND EVENTS: A technical memorandum consisting of the following:

- . a bibliography of past studies
- . conclusions from each study
- . a description of the method of conducting each study
- . any obvious conclusions derived from the results of all studies

METHOD: Review all past studies including, but not limited to the following:

- . San Francisco Bay Basin Plan
- . U. C. Comprehensive Studies
- . Bay-Delta Water Quality Control Program, including past reports
- . reports of studies done by the Department of Fish & Game

COORDINATION REQUIREMENTS: Tasks on water quality data collection and the environmental data management system.

BUDGET: \$12,000

TASK: Analyze existing data, coordinate with other work

PURPOSE: The purpose of this task is to analyze existing data and to draw conclusions concerning the incidents and causes of fish kills.

RESPONSIBILITY: ABAG

START AND COMPLETION DATA: Month 4 to Month 14

INPUT: Information from preceding task

MAJOR PRODUCTS AND EVENTS: An interim report prepared by month 10 listing preliminary conclusions. This report will be followed by a final report consisting of the following:

- . final conclusions
- . bibliography
- . summaries of past work
- . methods of analysis used in this study
- . recommendations for additional work

METHOD: In addition to review of existing data and reports, discussions should be held with those persons familiar with fish kills in the Bay, especially personnel of the Department of Fish and Game.

The study should consider at least the following:

- . listing of incidences of fish kills, including location, approximate number and species of fish, time of occurrence
- . for each incident, examination of discharger records, conditions of Delta outflow, and other data that might give evidence of the cause of the incident
- . similar occurrences in other bodies of water

COORDINATION REQUIREMENTS: This task should be coordinated with the group of tasks on data management and water quality data collection. It should also be coordinated with the special study on Delta outflow and with the group of tasks on study management and administration.

BUDGET: \$24,000

## DREDGING

The questions of the effect of dredging on water quality in the Bay and the appropriateness of dredging controls have been subjects of considerable concern. Dredging has been continually implicated as a source of pollution because of the stirring up of bottom deposits. Similarly, the disposal of dredge spoils has proven to be a difficult problem. Dredging of the shipping channels in the Bay is a necessity for the continued beneficial use of Bay waters for navigation.

The Corps of Engineers has done considerable work on the effect of dredging in the Bay and elsewhere. This special study will rely primarily on these Corps studies. It will provide an independent and objective analysis of the studies.



TASK: Describe data needs

PURPOSE: The purpose of this task is to describe the need for collection and analysis of new water quality data in support of this special study.

RESPONSIBILITY: ABAG

START AND COMPLETION DATES: Month 0 to month 2

INPUTS: Information on data availability from data management system group of tasks

MAJOR PRODUCTS AND EVENTS: A list of the specific types of data needed, locations to be sampled, and time and frequency of sampling.

METHOD: Review existing data; discuss data needs with the Corps of Engineers, and the Regional Water Quality Control Board

COORDINATION REQUIREMENTS: Coordinate with tasks on water quality data collection and environmental data management system

BUDGET: \$4,000

TASK: Review and describe past studies

PURPOSE: The purpose of this task is to prepare concise summaries of all past studies relevant to this special study on dredging.

RESPONSIBILITY: ABAG

START AND COMPLETION DATA: Month 0 to month 4

INPUTS: Past reports

MAJOR PRODUCTS AND EVENTS: A technical memorandum consisting of the following:

- . a bibliography of past studies
- . conclusions from each study
- . descriptions of the methods of conducting each study
- . any obvious conclusions derived from the results of all studies

METHOD: Review all past studies including, but not limited to, the following:

- . records of the Regional Water Quality Control Board
- . published and unpublished reports of the Department of Fish and Game
- . studies done by the Corps of Engineers
- . any studies done by the Maritime Administration

COORDINATION REQUIREMENTS: Coordination with tasks on water quality data collection, and the environmental data management system.

BUDGET: \$8,000

TASK: Analyze existing data, coordinate with other work

PURPOSE: The purpose of this task is to analyze existing data and to draw conclusions concerning the effect of dredging on the Bay and the appropriateness of various controls on dredging.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 4 to month 14

INPUTS: Information from preceding task

MAJOR PRODUCTS AND EVENTS: An interim report prepared by month 10 listing preliminary conclusions. This report will be followed by a final report consisting of the following:

- . final conclusions
- . bibliography
- . summaries of past work
- . methods of analysis used in this study
- . recommendations for additional work

METHOD: In addition to review of existing data and reports, discussion should be held with experts on the question of dredging, including persons from the Corps of Engineers and the Department of Fish and Game as well as other regional and national experts.

The study should consider at least the following:

- . the magnitude of the dredging problem
- . the specific effect of dredging on water quality
- . the effect of dredging on aquatic biota
- . periods when dredging would have the least impact
- . existing capability (equipment and manpower) for dredging
- . adverse effects of not dredging or of limited dredging
- . possible controls of dredging and the adverse and beneficial effects of such controls

COORDINATION REQUIREMENTS: This study should be coordinated with the studies on fish kills and Delta outflow as it affects the deposition of materials to be dredged. It should also be coordinated with the group of tasks on study management and administration.

BUDGET: \$8,000



## ENERGY/AIR QUALITY

See the section on Air Quality Maintenance Management Plan for a discussion of this special study.

## CONTINGENCY PLANS

There are a number of contingencies with potentially significant effects, especially on water quality. Included among these are earthquakes, fires, floods, spills, and strikes of personnel operating pollution abatement facilities. The purpose of this special study is to examine existing plans or measures to be taken to lessen the adverse impact on water quality of such contingencies.

TASK: Collect contingency plans.

PURPOSE: The purpose of this task is to collect contingency plans for the protection of water quality in the event of the contingencies identified in the next task.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 4.

INPUTS: Existing plans of agencies or industries whose operations could have significant adverse effects on water quality in the event of contingencies identified in the following task.

MAJOR PRODUCTS AND EVENTS: A list and brief description of contingency plans by agency or industry.

METHOD: This task will require contacts with numerous agencies and industries, including wastewater dischargers and industries with significant spill potential to collect descriptions of their contingency plans. The Coast Guard and Clean Bay, Inc., should also be contacted for spill clean-up plans.

COORDINATION REQUIREMENTS: With the management plan task on municipal and industrial dischargers and with ABAG and U.S.G.S. land capability and earthquake planning program, and the State's Disaster preparedness efforts.

BUDGET: \$14,000.

TASK: Describe types of contingencies.

PURPOSE: The purpose of this task is to describe specifically the types of contingencies for which plans should possibly be developed.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to month 4.

INPUTS: Discussions with the Regional Water Quality Control Board, the Coast Guard, U.S.G.S., State Civil Preparedness office.

MAJOR PRODUCTS AND EVENTS: A list of specific contingencies to be considered and description of each contingency or group of contingencies. This list should include earthquakes, floods, fires, strikes, major and minor spills (including spills that occur relatively frequently), and discharges of unusual amounts of toxic materials in sewers.

METHOD: The method for accomplishing this task will essentially be to discuss with knowledgeable persons the types of contingencies that should be considered.

COORDINATION REQUIREMENTS: With the group of tasks on study management and administration.

BUDGET: \$8,000.



TASK: Analyze plans and draw conclusions.

PURPOSE: The purpose of this task is to analyze existing plans with respect to the contingencies identified in the preceding task and to draw conclusions regarding the adequacy of existing plans and the need for development of additional plans.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 4 to month 14.

INPUTS: Preceding two tasks.

MAJOR PRODUCTS AND EVENTS: A final report consisting of the following:

method of conducting work

conclusions, including a summary table listing the types of contingencies considered, the possible adverse effects of each contingency, the need for contingency plans, agencies of industries responsible for plan preparation, the existence of plans that satisfy the needs.

METHOD: The method will essentially consist of comparing the adverse impact of contingencies with the potential mitigating effects of developing and carrying out contingency plans.

COORDINATION REQUIREMENTS: With the management plan for municipal and industrial dischargers and with the surface runoff management plan with respect to floods.

BUDGET: \$18,000.

## DATA BASE

The following tasks can be grouped as follows:

Water quality data collection

Environmental data management systems

Data collection by local agencies

The water quality data collection group of tasks will integrate the data requests from the management plans and certain of the supporting regional programs into a water quality data collection program which will be carried out during the preparation of the environmental management plan.

The environmental data management system will concentrate on the collection of existing data on air quality, water quality, and solid waste. These data will be analyzed and put into a data management system which will be used not only in this environmental management plan, but also will be an essential element in the continuing planning process.

Data collection by local agencies involves certain specific data requirements, particularly those on local development policies, whose collection will be contracted for by ABAG with local agencies.

## WATER QUALITY DATA COLLECTION

TASK: Develop and organize water quality data collection program

PURPOSE: The purpose of this task is to organize a data collection and analysis program for water quality data. The schedule for this program has been set primarily to provide a data collection program that can be operating by the time the rainy season of 1976 is underway. It is anticipated that much of the data required will relate to the question of surface runoff.

RESPONSIBILITY: Water quality consultant

STARTING AND COMPLETION DATE: Month 0 to month 4

### MAJOR PRODUCTS AND EVENTS:

- A. Immediately - Coordination meeting with ABAG 208 coordinator (and WQ coordinatoe), WQ model consultant(s).
- B. 1st month - As part of the environmental data management system task, inventory of all relevant water quality data available, ongoing and planned sampling and monitoring programs. Agencies and organizations contacted will include the EPA, RWQCB, Corps of Engineers, USGS, Consultants for the San Francisco Bay (303(e) plan (c.f., especially Appendix D - Surveillance and Monitoring), major dischargers, local and county agencies. The emphasis will be on stormwater runoff data. A meeting will be held after 1 month to discuss the results of the inventory.
- C. 2nd month (1 month) - As part of the environmental data management system report, prepare draft report indicating data availability and data deficiencies regarding the determination of stormwater runoff and other non-point pollutant loadings entering San Francisco Bay, and new water quality data not discussed in the 303(e) report. Wet weather overflows will be taken into account by coordinating with the tasks on municipal discharges. Report will be prepared by end of 2nd month. (See D below).

- D. 6th-10th week (1 month) - Begin coordination with persons responsible for assessing existing water quality problems, including stormwater runoff, non-point source, municipal and industrial discharge management programs. With substantial input from these persons, ABAG 208 (and water quality) coordinators, the water quality modeling consultants, and data availability document from C, a preliminary monitoring program report will be prepared. The report will consider available funds and program priorities, indicate data to be collected (points and frequencies, and relative timing to storms) and will examine whether further precipitation monitoring is appropriate. Agencies or consultants will be identified or suggested to perform the monitoring. Emphasis will be on the utilization of existing monitoring programs and the use of existing facilities. The data will be entered into the ABAG data management system. A preliminary list of suggested continuing (post-208) monitoring programs will be included in the document.
- E. 10th week - Distribute monitoring program document to relevant agencies for review and comment.
- F. 10th-14th week (1 month) - With ABAG staff, secure agreements with agencies, and contract with consultants, to perform monitoring. Respond to agency comments from E, and modify if necessary.
- G. 4th month (1 month) - Prepare to begin monitoring -- obtain vessels, sampling devices, laboratory equipment.
- H. End of 4th month - Begin monitoring program.

COORDINATION REQUIREMENTS: Water quality modeling, surface runoff modeling, water quality management plans.

BUDGET: \$20,000



TASK: Carry out program

PURPOSE: The purpose of this task is to carry out the water quality and wastewater data collection program.

RESPONSIBILITY: Public agencies/consultant as determined in previous task.

START AND COMPLETION DATE: Month 4 to month 13

INPUTS: Work program from previous task

MAJOR PRODUCTS & EVENTS:

Begin pre-storm season monitoring

Monitor throughout period, as in work program

Prepare weekly summary of data recorded, and enter into ABAG Data Management System; prepare special summary after each storm

Coordination with 208 (and water quality) coordinator and modeling consultants shall be arranged frequently, including after 1 month and after major storm events, an assessment shall be made of the adequacy of the program to fulfill data needs.

The program shall be modified if the ABAG 208 (or water quality) coordinator deems modifications necessary to better fulfill the data needs of the 208 program. An assessment of the program shall be made after the interim monitoring report is produced (see next task).

METHOD: The program should be structured so that early outputs of critical data, especially on surface runoff, can be made available to the management plan.

COORDINATION: (Same as previous task)

BUDGET: \$95,000

TASK: Interim Report

PURPOSE: The purpose of this task is to prepare a summary report on data collected midway in the data collection program.

RESPONSIBILITY: Water Quality monitoring consultant

START AND COMPLETION DATE: Month 7 to month 8

INPUTS: Results of first 3 months of monitoring

MAJOR PRODUCTS AND EVENTS: This report shall be a compilation and summary of the monthly reports specified in the previous task and feedback from other agencies.

A meeting shall be held among the water quality monitoring consultant, the water quality modeling consultant, the ABAG 208 (and Water Quality) coordinator, and the agencies and organizations collecting water quality data to assess the program.

Suggested modifications to the monitoring program may be incorporated at the discretion of the ABAG 208 (or water quality coordinator) as a result of the interim report.

COORDINATION REQUIREMENTS: Same as previous

BUDGET: \$3,000

TASK: Describe data collection for continuing planning process

PURPOSE: The purpose of this task is to describe those elements in the continuing planning process related to water quality data collection.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 10 to month 13

INPUTS: Previous tasks

MAJOR PRODUCTS AND EVENTS: With substantial coordination with the ABAG 208 coordinator, the surface runoff management program, the modeling program and the continuing planning process program, determine the water quality parameters and locations which are:

current or future violations of water quality standards sensitive to growth and development in the region.

Determine appropriate monitoring frequencies for the above locations.

Determine agencies best suited to carry out the monitoring, and funding necessary.

COORDINATION REQUIREMENTS: (Same as previous tasks)

BUDGET: \$5,000

TASK: Compile and analyze data

PURPOSE: The purpose of this task is to examine the reliability and significance to the water quality management plans of the data collected in the monitoring program. Because of task scheduling, these data will be used primarily by ABAG in the compilation, adjustment and assessment of the management plans.

RESPONSIBILITY: Water quality monitoring consultant

START AND COMPLETION DATE: Month 11 to month 13

INPUTS: Water quality data from previous tasks

MAJOR PRODUCTS AND EVENTS: All of the water quality data collected in the program will be compiled, statistically analyzed and presented in a form suitable for interpretation of reliability and utility to the modeling and other appropriate programs. This will provide a basis for future monitoring programs and a check on the calibration of the models.

COORDINATION REQUIREMENTS: (same as previous tasks)

BUDGET: \$6,000



TASK: Prepare report

PURPOSE: The purpose of this task is to prepare a report setting forth all of the data collected, summarizing the data, drawing conclusions based on analysis of these data, and describing the data collection aspects of the continuing planning process.

RESPONSIBILITY: Water quality monitoring consultant

START AND COMPLETION DATE: Month 13 to month 14

INPUTS: Previous tasks

MAJOR PRODUCTS AND EVENTS: Report on the tasks in the water quality monitoring program. To be reviewed by ABAG 208 (or water quality) coordinator and affected agencies.

COORDINATION REQUIREMENTS: (Same as previous tasks)

BUDGET: \$6,000

## ENVIRONMENTAL DATA MANAGEMENT SYSTEM (DMS)

**TASK:** Coordinate development of environmental data management system (EDMS) with management plans and data collection tasks

**PURPOSE:** The purpose of this task is to obtain information on the desired characteristics of EDMS from those persons who will likely make use of the system during the preparation of the environmental management plan.

**RESPONSIBILITY:** ABAG

**START AND COMPLETION DATE:** Month 0 to month 2

**INPUTS:** Inputs to this task will be guidelines on data needs from those persons developing the management plans. These guidelines will indicate the type, sources, and timing of needed data. Data collection tasks, including those of local jurisdictions, will provide input to this task through summaries of data being collected, sources, and timing.

**MAJOR PRODUCTS AND EVENTS:** The primary product of this task will be a data development schedule designed to meet the diverse data needs of all management plan tasks. Environmental data collection and data transfer projects (i.e., pre-processing for the automated data base) will flow from this schedule. This schedule will be monitored, reviewed, and updated throughout the development and operation of EDMS.

Another product of this task will be a development schedule for specialized computer software required in the manipulation of environmental data.

Special data standards beyond those required for ABAG's geographic data base will also be a product of this task.

**METHOD:** This task will be performed by a team made up primarily of systems analysts and data analysts. The function of this team will be to apprise persons developing the management plans of the data manipulation capabilities within the automated geographic data base, to assess overall environmental data needs based on data-need guidelines, to assess the capability of EDMS to respond to these needs, to consult with those coordinating 208 programs in order to establish data-need priorities, and finally to establish a critical path for data development that will meet these diverse needs.

COORDINATION REQUIREMENTS: All persons requiring environmental data development will be consulted, particularly those dealing with management plan development, modeling tasks, and assessment/evaluation activities.

This task will relate directly to all initial environmental data collection projects.

BUDGET: \$3,400

TASK: Collect air quality, water quality, and solid waste data

PURPOSE: The purpose of this task is to inventory and collect pertinent existing data related to air quality, water quality, and solid wastes.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 3

INPUTS: Inputs to this task will be data specifications and data source listings from those persons needing existing air quality, water quality, and solid waste data.

MAJOR PRODUCTS AND EVENTS: The major product of this task will be a file listing all data inventoried, their characteristics, record structure (mapped and un-mapped), coverage (spatial and temporal), and custodial status (for data not actually collected).

Appropriate data will be collected and organized for later processing into the geographic data base.

METHOD: Sources of environmental data will be inventoried and evaluated. Appropriate data will be collected for later processing.

Air quality data will be provided by the Bay Area Air Pollution Control District and will include stationary source emission inventory data and ambient air quality data from 24 area monitoring stations.

Water quality data will be selected from a number of existing sources, including:

The Regional Water Quality Control Board self-monitoring program for municipal and industrial dischargers (effluent and receiving waters) and solid waste land fill sites;

Data from special studies, including those conducted by

The U. S. Geological Survey,  
The Department of Water Resource,  
The Bureau of Reclamation,  
The Corps of Engineers,  
The Department of Fish and Game,  
dischargers,  
counties, and  
local flood control districts;

Major studies on reservoirs, wells, and surface water listed in Appendix D of the Basins Plan;



Existing automated data bases, such as those found in

The Lawrence Berkeley Laboratory file on existing water quality data bases,

The EPA computerized network (STORET) of water quality data, and

The State Water Resources Control Board program to incorporate a consistent reporting and processing format into the self-monitoring program for dischargers and to develop a STORET compatibility.

Solid waste data will be survey input as well as existing data, including

A survey of hazardous waste generation rate by industry,

A survey of past and present land fill sites for data related to water quality and nuisance problems,

Municipal and industrial wastes determined from county plans, and

Potential Class 1 sites by counties).

COORDINATION REQUIREMENTS: This task will require coordination among all management plans (including assessment and modeling functions), the Environmental Data Management System, and other data collection activities.

BUDGET: \$9,700

TASK: Analyze existing data for runoff problems

PURPOSE: The purpose of this task is to provide early information on existing water quality problems caused by surface runoff.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 2

INPUTS: Inputs to this task will be data specification and evaluation criteria provided by the surface runoff management plan coordinating staff.

MAJOR PRODUCTS AND EVENTS: The major products of this task will include a summary file of available runoff data, an evaluation of these data vis a vis their utility in assessing runoff problems, and a procedure by which these and future runoff data can be structured and processed in the environmental data management system.

METHOD: This task will require an intensive level of effort over a short period of time. Emphasis will be placed upon a rapid assessment of data need and availability and the timely incorporation of runoff data with the geographic data base.

Data sources will likely be limited but may include the sampling program carried out by the Corps of Engineers and the self-monitoring program for dischargers (particularly data collected near outfalls during storm periods).

COORDINATION REQUIREMENTS: This task will relate closely to the surface runoff management plan activities, the storm runoff modeling tasks, the water quality data collection task, and to the coordination and development tasks for the environmental data management system.

BUDGET: \$5,100

TASK: Develop environmental data management system (EDMS)

PURPOSE: The purpose of this task is to develop a system for the management of existing and future data on air quality, water quality, solid waste, population, land use, and employment.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 2 to month 8

INPUTS: There are three initial inputs to this task. The first is the data development schedule prepared in the EDMS coordination task. The second is the set of air quality, water quality, and solid waste data assembled during the first three months of the work program. The third is the development schedule for specialized software prepared in the EDMS coordination task.

There will be continuous input of new and revised data-need guidelines from management plan, modeling, and assessment tasks.

MAJOR PRODUCTS AND EVENTS: The major product of this task will be a functional environmental data base that includes air quality, water quality, solid waste, population, land use, and employment data stored in one or more of three ways --

- on 1:24,000 scale mylar overlays to USGS 7-1/2' quadrangles;

- in digitized form within ABAG's automated geographic data base; and

- in alphanumeric (non-geographically referenced) data files.

All data will be documented in a consistent manner.

The emphasis in this task will be upon rapid access to and manipulation of environmental data. By the completion of this task, a coordinated package of environmental data manipulation software will be developed and implemented.

METHOD: The primary function in this task will be to carry out the data development schedule prepared in the earlier EDMS coordination task. In this task, specific data development projects will be completed. Each project will entail data specification, project design, data source inventory, data acquisition, pre-processing, input to the data base, and documentation. Extensive pre-processing will usually be required to ensure that incoming data of varying definitions, characteristics, map scales, coverage, and levels of aggregation are formatted, scaled, and compiled to meet the standards established for ABAG's geographic data base.

Throughout this task, software improvements will be implemented in the geographic data base to meet the needs of EDMS.

COORDINATION REQUIREMENTS: This task will coordinate with all persons requiring environmental data development, particularly those carrying out management plans, modeling, and assessment tasks. All data collection tasks, such as the water quality data, local development policy, and county utility data collection tasks should be closely coordinated with this task.

BUDGET: \$67,800



TASK: Operate environmental data management system (EDMS)

PURPOSE: The purpose of this task is to operate the EDMS on demand from those persons developing the management plans or carrying out the regional supporting program.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 8 to month 20

INPUTS: This is an operational service task designed to respond quickly to requests for environmental data and/or manipulation of environmental data from persons preparing the environmental management plans or participating in the regional supporting program.

In addition to use requests, requests for additional data development projects will also provide input to this task, as will the data transferred into the EDMS from outside sources.

MAJOR PRODUCTS AND EVENTS: The major product of this task is increased data access service. This includes an increase in environmental data manipulation capability as well as an increase in the actual environmental data input to the data base.

METHOD: Those ABAG staff who earlier performed data development functions will in this task provide applications support either as active participants on plan preparation teams or as environmental data base experts to whom users will come for assistance in the design of data applications and/or in actually utilizing the environmental data base.

COORDINATION REQUIREMENTS: Coordination will be required of all users who need environmental data, particularly those involved in assessment/evaluation activities. During this task, coordination mechanisms will be established with appropriate outside agencies wishing to use EDMS.

BUDGET: \$62,500

TASK: Describe environmental data management for the continuing planning process

PURPOSE: The purpose of this task is to describe those parts of the continuing planning process related to the management of environmental data.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 10 to month 13

INPUTS: Inputs for this task will come from an assessment of the continuing planning process. These inputs will be guidelines for data development, monitoring, and updating to meet the needs of continuing environmental planning.

MAJOR PRODUCTS AND EVENTS: The major products of this task will be a plan for expanded service to more users, a procedure for the processing of monitoring data, EDMS updating procedures, and a schedule for additional data development projects. Emphasis will be placed upon developing plans for data sharing among a wide range of users.

METHOD: EDMS will continue to operate in the continuing planning process as it has evolved through the two year planning process. In this task, EDMS staff will assess a wider array of users' needs and recommend to the continuing planning coordinators steps necessary to meet those needs. Special attention will be given to ongoing (monitoring/updating) needs for environmental data in the continuing planning process.

COORDINATION REQUIREMENTS: Coordination will be required among those persons performing continuing environmental management functions, EDMS staff, and potential data base users.

BUDGET: \$1,500

## DATA COLLECTION BY LOCAL AGENCIES

At this stage of work program development, it is possible to specify three types of information to be collected by local agencies. It is likely that other requests will be made to various local agencies for information. It is not the purpose of this task to cover such case-by-case requests. This group of tasks address the collection of detailed information in three major areas:

Local development policies

Institutions and finances

Past utility provision and development.

TASK: Provide local development/environmental policies

PURPOSE: The purpose of this task is for subregional agencies which exercise control over local development, whether by regulation or by provision of essential services, to provide to ABAG information about their current operating policies and policy instruments.

RESPONSIBILITY: Counties with selected cities and special districts, and with ABAG assistance.

START AND COMPLETION DATE: Already started to month 3

INPUTS: Local Policy Survey collection instrument designed by ABAG with assistance of local agencies.

MAJOR PRODUCTS AND EVENTS: Regionwide inventory of local development policy instruments and local environmental policy instruments and the local developmental/environmental policies which those instruments are intended to implement. The inventory would be in such format as required for assessment of regional implications of local policy consistencies and inconsistencies by local agencies and by ABAG. Events include local workshops among local agencies, perhaps by county, to explain the survey purpose and method and to review survey problems and inventory products.

METHOD: A survey instrument which combines questionnaire and map formats. The survey will be administered to local agencies by a combination of interview, mailback and call-back methods, by local agency representatives with ABAG assistance as required.

COORDINATION REQUIREMENTS: Provide information on institutions and finances, provide information on past development tasks and development of PLUM Model for Base Projections.

BUDGET: \$59,000



TASK: Provide information on institutions and finances

PURPOSE: The purpose of this task is for county and local planning participants to provide information on county and local environmental management institutions and their available financial tools.

RESPONSIBILITY: County and local planning agencies

START AND COMPLETION DATE: Month 1 to month 4

INPUTS: ABAG will prepare a listing of informational needs to be supplied by county and local agencies.

MAJOR PRODUCTS AND EVENTS: The output from this task will be the information requested by ABAG. Such information includes:

- Listings and descriptions of county and local environmental management agencies

- Organizational charts between and within agencies

- Appropriate California and other statutory material on powers and authorities of such agencies, their available financial tools, etc.

- County and local ordinances, including inter-agency agreements and other regulatory documents, relating to agency powers and authorities and how they are carried out

- Names of key officials

- Sample agency products -- e.g. rulings, permits, plans, etc.

- Descriptions of available financing instruments and current status

- Description of available regulatory techniques and current status.

METHODS: This information can be found in many sources. Among these are legal documents, plans, other agency materials, outside sources, etc.

COORDINATION REQUIREMENTS: Provision of local development policies.

BUDGET: \$14,500

TASK: Utilities and urbanization patterns

PURPOSE: The purpose of this task is to describe the relationship between the provision of selected utilities and urban development.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 1 to month 6

INPUTS: Collection of local policy

MAJOR PRODUCTS AND EVENTS: A report which describes the relationship between the location and "sizing" of key utilities and the extent to which their presence is growth-inducing and/or services providing. The report will cover sanitary sewers (specifically the sizing of plants and the location and sizing of trunk lines), potable water supply provision, flood control measures, and storm sewers. Private utilities (e.g., electricity) may also be included. The work will include a literature search, small-scale case studies in the Bay Area, a review of city and county public policies on public utilities expansion, discussions with the private building industry, an assessment of the results of the interaction of public and private utilities provision with regard to land development patterns.

METHOD: Review of existing literature and current Bay Area public and private policies and actions affecting the provision of utilities.

COORDINATION REQUIREMENTS: Local policy collection

BUDGET: \$2,500

TASK: Provide information on past development

PURPOSE: The purpose of this task is to provide, for the period "prior to 1960" and "from 1960-1975," a summary of utility provision and development on a county-by-county basis.

RESPONSIBILITY: Local agencies

START AND COMPLETION DATE: Month 0 to month 3

MAJOR PRODUCTS AND EVENTS: A written and mapped inventory of the service areas, and where applicable, the main lines and plant locations of water supply facilities, sanitary sewer provision, flood control projects, and other utilities. The inventory will show date of placement (by year "from '60-'75" or prior to '60"), capacity or project size, location, service area and, where applicable, provider.

A mapped inventory of major residential, individual and community development showing size and date.

METHOD: Review of service-provider records and maps, review of permit approvals, sub-division approvals.

COORDINATION REQUIREMENTS: Input to relationship between utilities provision and urbanization patterns; develop environmental data management system.

BUDGET: \$59,000

## REGIONAL SUPPORTING SERVICES AND PLAN INTEGRATION

This large group of tasks covers all of the supporting technical, managerial, and administrative services provided by ABAG either through its staff or through consultants to develop the management plans and conduct the special studies. This group of tasks includes the projections of population, land use and employment; the adaptation and use of various analytical tools; the development of the assessment procedures and assistance to the management plans in using these procedures; the local and regional institutional and financial analysis; the integration of management plans; preparation of reports; conduct of meetings; and management of the studies. It also includes the very important citizen participation program.



## POPULATION, LAND USE, AND EMPLOYMENT

Population, land use, and employment projections are those generally referred to as "Series 3" projections by ABAG. This will include the base case projections which will provide the initial input into the development of air/water/solid waste pollution estimates under a continuation of current development/environmental policies. Alternative projections will then be run to test the effects of various land use and transportation controls. The projections will be developed with a modeling system comprised of the following components: regional demographic and economic models, and subregional basic employment (BEMOD), projective land use (PLUM), and transportation models, State and national studies will be utilized where appropriate.

TASK: Collect and analyze local development policies.

PURPOSE: The purpose of this task is for ABAG to design a survey instrument, supervise and assist local agencies in its administration, and analyze the survey results as to implications for environmental management. The survey instrument is to collect from those subregional agencies which exercise control over local development, whether by regulation or by provision of essential services, policy information on their land development actions. This policy information will be used to represent local growth capacity in the regionwide model projections of population, employment, and land use; and for other assessments of local growth management programs' effects on both regional environmental objectives and regional developmental objectives.

RESPONSIBILITY: ABAG with assistance of counties, selected cities and special districts.

START AND COMPLETION DATE: Already started to month 3.

INPUTS: Local policy survey collection instrument designed by ABAG with assistance of local agencies.

MAJOR PRODUCTS AND EVENTS:

Products:

1. Regional/local liaison structure to orient local agencies to the field survey, to conduct the field interviews, and to clarify survey response as needed.
2. Inventory of local development/non-development policies.
3. Assessment of inter-jurisdictional inconsistencies among local agencies policies.
4. Local policy base as definition of local growth capacity for regionwide projections of population, employment, and land use.

Events:

1. Regional/local meetings and workshops to establish local participation in the conduct of the survey and to review survey problems and inventory product.
2. Field survey by local participating agencies, perhaps counties or selected cities or special districts, of all significant local agencies in their subregional areas, with assistance of ABAG, to collect pertinent information on development/non-development policies and policy instruments (see Data Collection by Local Agencies).

3. Compilation and analysis of local development/non-development policies by ABAG.

METHOD: A survey instrument which combines questionnaire and map formats. The instrument will be administered to local agencies by a combination of interview, mailback and call-back methods, by local agency representatives with ABAG assistance as required.

Compilation of policy inventory data to reconcile inconsistencies of definition, scale, coverage, and levels of aggregation in order to meet standards established for the data base.

COORDINATION REQUIREMENTS: Provide information on institutions and finances, development of PLUM model for base projections.

BUDGET: \$45,500

TASK: Develop and run land use/transportation models for base case projections.

PURPOSE: The purpose of this task is to adapt the existing land use/transportation models for application to air and water quality planning. This will include the incorporation of data into the modeling system; structuring base case assumptions; running the base case projections for land use, population, and employment; and the conversion and presentation of these projects at areal units appropriate to air, water, and solid waste planning. This work will serve as the foundation of much of the technical work of this plan.

The base case assumptions will reflect the current development/environmental policies of service providing and regulatory agencies and a plausible range of demographic and economic assumptions.

RESPONSIBILITY: ABAG, MTC.

START AND COMPLETION DATE: Already started to month 6.

INPUTS: Existing land use/transportation modeling system; local development/environmental policies; transportation network assumptions, and regional economic and population projections.

MAJOR PRODUCTS AND EVENTS: The major product of this task is the production of base case projections of land use, population, and employment at appropriate areal units and in five year increments from 1970 to 2000. Other products will be an implemented methodology to perform the necessary conversions of outputs to appropriate areal units.

The following events will take place:

1. Development of base case assumptions in conjunction with local agencies.
2. Incorporation of appropriate data into the modeling system, including data about local development/environmental policies.
3. Development and implement method for converting model outputs from 440 map zones (covering entire nine-county bay region) to appropriate areal units such as hydrological subunits and air basins.
4. Production runs of base case projections.



METHOD: The methods will include:

1. The use of a land use/transportation modeling system comprised of the following components: regional demographic and economic models, and subregional basic employment (BEMOD), projective land use (PLUM), and transportation models. State and national studies will be utilized where appropriate.

2. Mathematical techniques for disaggregating/aggregating projection outputs to appropriate areal units.

COORDINATION REQUIREMENTS: All management plans, including surface runoff, air quality maintenance, etc.; all data base tasks, including water quality data collection, data collection by local agencies, etc.; and the following supporting services: air quality, storm runoff, and water quality modeling, and assessment and evaluation.

BUDGET: \$9,400

TASK: Analyze local development/environmental policies and incorporate into modeling system.

PURPOSE: Analyze local policies with respect to their use primarily within the land use/transportation modeling system and then translate policies into appropriate format to be incorporated into modeling system.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 2 to month 5.

INPUTS: Data collection by local agencies.

MAJOR PRODUCTS AND EVENTS: The major product is a set of development/environmental policies translated into suitable format for incorporation into the model.

The following events will take place:

1. Analysis of local policies with respect to their use primarily within the modeling system.
2. Translation of local policies into suitable format for use in models.

METHOD: Review of the implication of policies and quantification of policies (where possible) into model variables such as: available land, densities, growth rates and limits, assimilative and holding capacities, etc.

COORDINATION REQUIREMENTS: Data collection by local agencies, assessment of evaluation.

BUDGET: \$5,800

TASK: Prepare technical report documenting the base case projections.

PURPOSE: The purpose of this task is to prepare concise documentation of the base case projections of population, land use, and employment. Also, included will be a brief summary of the basic assumptions and the techniques used in developing these projections.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 4 to month 6.

INPUTS: Base case projections, basic assumptions, and data collection by local agencies.

MAJOR PRODUCTS AND EVENTS: The major product will be documentation of base case projections, the basic assumptions, and techniques used in a technical report.

METHOD: Documentation including computer generated reports.

COORDINATION REQUIREMENTS: Data collection by local agencies, assessment and evaluation, management plans, and data base.

BUDGET: \$2,400

TASK: Use land use/transportation modeling system for assessment.

PURPOSE: The purpose of this task is to use the land use/transportation modeling system to test the effects on air and water quality of alternative land use/transportation controls and to provide basic driving inputs into a number of other analytical techniques involved in assessment (see attached Figure which diagrams the relationships between the models and control measures).

RESPONSIBILITY: ABAG, MTC.

START AND COMPLETION DATE: Month 6 to month 20.

MAJOR PRODUCTS AND EVENTS: The major products are a number of model runs incorporating land use/transportation control strategies which are useful to air and water quality assessment.

The events will include:

1. Translation of controls into format which can be incorporated into models.
2. Sensitivity testing of modeling system to controls which are relevant to air and water quality assessment.
3. Production runs incorporating alternative land use/transportation controls.
4. Interpretation and analysis of the impact of controls on air and water quality.

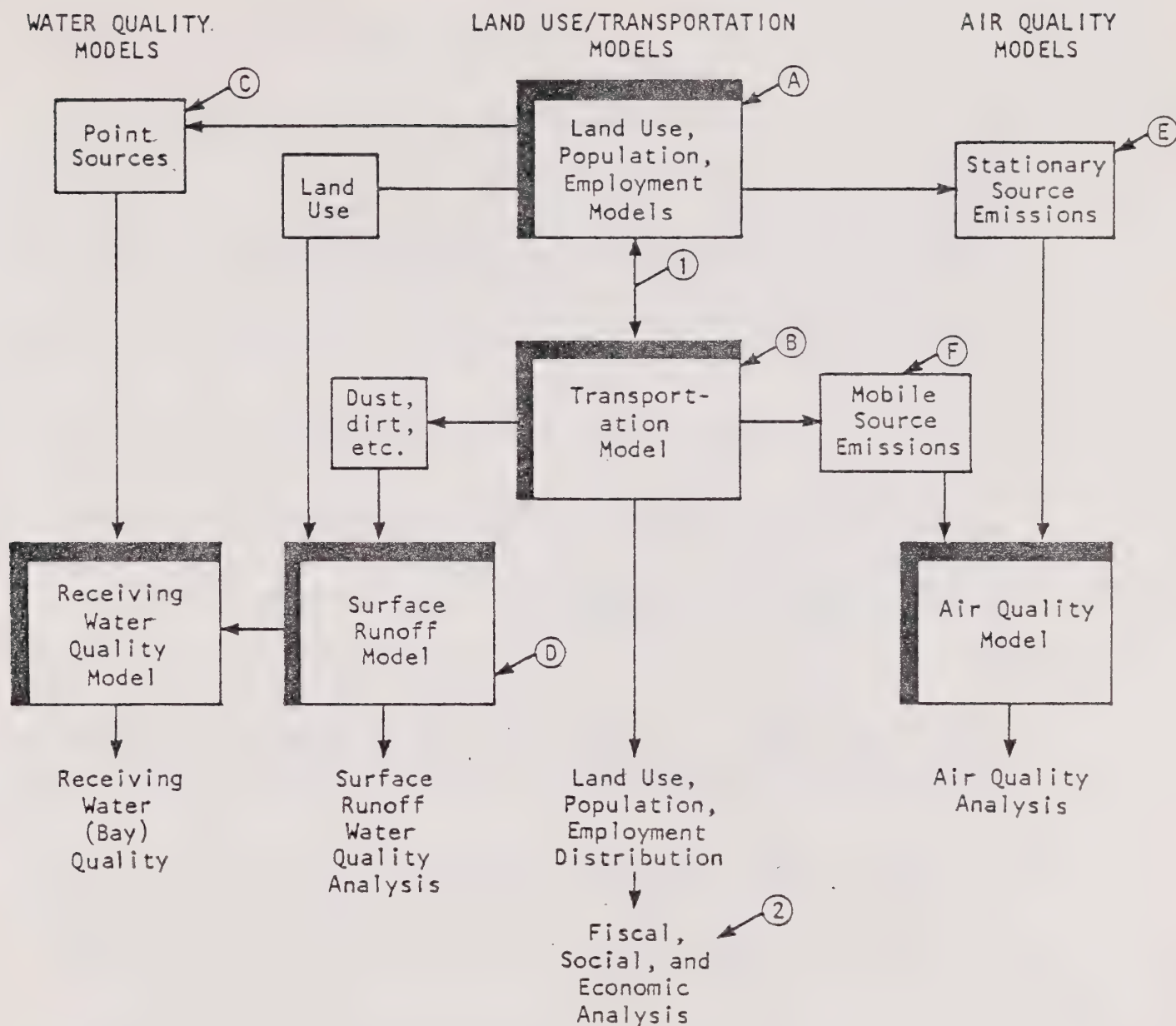
METHOD: Use of the land use/transportation modeling system and other analytical techniques as required.

COORDINATION REQUIREMENTS: Storm runoff, water quality, and air quality modeling; and assessment and evaluation.

BUDGET: \$9,400



# MODELING SYSTEM FOR ASSESSMENT



- A. Land use and population controls; e.g., growth rates and limits, densities.
- B. Transportation controls; e.g., facilities such as transit, improved service, tolls, parking regulations.
- C. Point source controls; e.g., location, treatment requirements, timing.
- D. Surface runoff controls; e.g., land practices, street sweeping, building codes.
- E. Stationary source emission controls; e.g., air zoning and emission density zoning, treatment requirements.
- F. Mobile source emission controls; e.g., exhaust control devices, fuel requirements.
1. Iterations among the models will be performed to assure consistency among their respective assumptions; e.g., a resulting land use pattern must be consistent with transportation system capacities.
2. The fiscal costs and social/economic impacts are assessed as secondary impacts after the primary environmental effects are assessed. This will include both quantitative analysis, such as financially costing out the treatment plants and controls and qualitative analysis of social/economic impacts.

Notes:

- A. Land use and population controls; e.g. growth rates and limits, densities, etc.
  - B. Transportation controls; e.g. facilities such as transit, improved service, tolls, parking regulations, etc.
  - C. Point source controls; e.g. location, treatment requirements, timing.
  - D. Surface runoff controls; e.g. land practices, street sweeping, building codes, etc.
  - E. Stationary source emission controls; e.g. air zoning and emission density zoning, treatment requirements.
  - F. Mobile source emission controls; e.g. exhaust control devices, fuel requirements, etc.
- 
- 1. Iterations among the models will be performed to assure consistency among their respective assumptions; e.g. a resulting land use pattern must be consistent with transportation system capacities.
  - 2. The fiscal costs and social/economic impacts are assessed as secondary impacts after the primary environmental effects are assessed. This will include both quantitative analysis, such as financially costing out the treatment plants and controls, and qualitative analysis of social/economic impacts.

TASK: Describe projection methods for continuing planning process.

PURPOSE: The purpose of this task is to develop, based on work in preparing the environmental management plan, a description of those aspects of the continuing planning process that are pertinent to the projections of population, land use, and employment. This will include new data and methodology requirements and review procedures to assess adequacy and validity of projections, and how and when projections should be modified.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 11 to month 13.

INPUTS: Feedback from local agencies, assessment and evaluation, base case projections, data base, and management plans.

MAJOR PRODUCTS AND EVENTS: The major product will be recommendations providing improved and updated projections for continuing environmental management.

The major events will be:

1. Identification of data gaps necessary for a continuing projection program.
2. Identification of methodological shortcomings and recommended approaches for improvement.
3. Recommended approach for when and how the projections will be modified.
4. Recommended procedure for continuing review and input by local agencies.

METHOD: Analysis of the usefulness and accuracy of the projections according to various criteria, and feedback from local agencies.

COORDINATION AND REQUIREMENTS: Assessment and evaluation, local agencies.

BUDGET: \$1,700

TASK: Special industry studies to support projections.

PURPOSE: Analysis of selected industries which are significant because of their air and water quality impacts or because of their critical role in determining growth of the region. These analyses will provide a basis for developing projections of future levels of activity. Included will be agriculture, petrochemicals, and food processing.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATES: Month 1 to month 5.

MAJOR PRODUCTS AND EVENTS: The major products will be a set of significant industry studies.

The following events will take place:

1. Literature research
2. Field contacts with selected industry groups
3. Incorporation of study results into models and analyses

METHOD: In-depth study of selected industries which will include study of published literature and a selected number of field contacts.

COORDINATION REQUIREMENTS: Surface runoff, nonpoint sources, industrial discharges, water quality data collection, environmental data management system, water and air quality modeling, and assessment evaluation.

BUDGET: \$5,800



STORM RUNOFF  
ANALYTICAL PROCEDURES

This group of tasks consists of the adaptation of existing mathematical models to relate land practices to the quality and quantity of surface runoff. This task will be carried out at the regional level, and the models will be available for use by agencies preparing the county surface runoff management plans.

TASK: Determine Hydrologic Bases for Runoff Analysis

PURPOSE: The purpose of this task is to determine what set or sets of hydrologic conditions will be used for the runoff analyses.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 1 to Month 2

INPUTS: Weather Bureau records.

MAJOR PRODUCTS AND EVENTS: Sets of intensity-duration-frequency precipitation relationships for each of eight specific areas (all of the counties except San Francisco) will be developed. Means of creating hydrographs from intensity-duration-frequency curves will be provided. Recognizing the importance of "first flush", recommendations will be made in regard to the most statistically probable first storm will be provided, one for each of the eight areas.

METHOD: Review and utilization of existing information and hydrological techniques.

The determination of the hydrologic bases should consider the type of information required to assess the water quality effects of surface runoff (that is, what frequency or range of frequencies of runoff events are of concern), as well as the practical aspects related to the number of runs to be made and the allowable budget for these tasks. Consideration should also be given in the task to the regionwide hydrologic bases; for example, in the regional assessment of surface runoff management plans, will it be appropriate to assume that it is raining in Marin County at the same time it is raining in the Livermore Valley?

COORDINATION REQUIREMENTS: None

BUDGET: \$3,400

TASK: Specify Surface Runoff Model Inputs and Outputs

PURPOSE: The purpose of this task is to specify in detail the requirements for model input and information that would be available from the model.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 1 to Month 2

INPUTS: Information needed by assessment and evaluation task groups.

MAJOR PRODUCTS AND EVENTS: Specific model input requirements for hydraulic simulations and for quality simulations will be listed. All units will be specified (acres, pounds, etc.). The form of the information presented will be defined, i.e., tables, maps, punched cards, etc.

Parameters that can be modified should be identified, and the possible range of modifications delineated, i.e., LAND USE: 1. RURAL, 2. SINGLE UNIT HOUSING, etc.

Model printed output will be described, including parameters, time scales, and units. Output will be clearly labeled and easy to read. It will satisfy requirements above (see INPUT).

Model computer data storage will be described. The formats must interface with input requirements to the water quality model.

METHOD: This task will require familiarity with model.

This is a critical task in that it will govern much of the descriptive work done on the development of surface runoff management plans; for example, descriptions of control measures must be made so that they can be translated into surface runoff model inputs. This task will also be critical for the group of tasks on assessment and evaluation because the storm runoff model will be a key analytical tool in the assessment task.

COORDINATION REQUIREMENTS: Output formats must coincide with input formats of water quality model. Printed output must satisfy assessment and evaluation task groups.

BUDGET: \$3,400

TASK: Adapt Model Geometrics for Local and Regional Use

PURPOSE: The purpose of this task is to adapt the geometrics for use on a county-by-county basis at the regional level for surface runoff analysis, using existing models. Geometrics are numerical descriptions of the drainage system's parameters, suitable for computer simulation.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 1 to Month 6

INPUTS: All necessary information as specified in task on Surface Runoff Model inputs and outputs.

MAJOR PRODUCTS AND EVENTS: Product will consist of at least eight sets of geometrics suitable for stormwater surface runoff. Each set will be accompanied by appropriate maps with an overlay of the numerical areas and channels used in the simulations. A base cases computer simulation for each geometric set for both hydraulics and quality will be made. ABAG will be provided with a complete data check for each set of geometrics.

METHOD: This task involves the adaptation to a single model's requirements for eight specific areas (all of the counties except San Francisco). The local agencies will supply the description of the runoff system, which must be adapted in that county.

COORDINATION REQUIREMENTS: Timing requires prompt data input from each local agency. This is a potential area of serious difficulty.

BUDGET: \$15,000



TASK: Run Storm Runoff Model

PURPOSE: The purpose of this task is to run the storm runoff model in support of the preliminary analyses for the counties, the surface runoff management plan, and also for the local and regional assessments of alternative control measures.

RESPONSIBILITY: Contractor

START AND COMPLETION DATE: Month 7 to Month 20

INPUTS: Geometrics from task for development of geometrics, hydrology from task to develop hydrology. Special requirements of group requesting runs.

MAJOR PRODUCTS AND EVENTS: Each run will provide printed output of simulation results. For those runs where additional information is required using the receiving water quality model, tape/magnetic storage output will be provided. Some runs will require changes in the geometrics, e.g., a large flood storage area is required.

METHOD: Change parameters and/or geometrics, make runs on request.

This task runs on throughout the entire program up to the production of the draft Environmental Management Plan. It is anticipated that storm model runoff runs will be made on demand by local agencies and by those persons responsible for regional assessment. Therefore, one characteristic of the running of the model should be extremely rapid turn-around time.

COORDINATION REQUIREMENTS: Contractor must always have at least one person available to make runs as required.

BUDGET: \$92,000

TASK: Transfer Model Capability to ABAG

PURPOSE: The purpose of this task is to transfer the capability for adaptation and use of the surface runoff model to the ABAG staff.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 17 to Month 22

INPUTS: Other modeling tasks

MAJOR PRODUCTS AND EVENTS: The surface runoff computer program will be installed on computer available to ABAG, and a test data set provided. A card deck of the surface runoff model will be provided to ABAG. A copy, suitable for reproduction, of a user's guide for the surface runoff model will be provided. One month of "hand's-on" training, using ABAG equipment will be provided, and will include necessary lectures, examples, and problems to fully train ABAG personnel in the use of the surface water model.

METHOD: This is a key task and will occur late in the program. It should be the subject of a formalized training program. It would be desirable to have the transfer of model capability begin as early as possible, to the point of having key ABAG staff members participate in running the storm runoff model during the development of the environmental management plan.

COORDINATION REQUIREMENTS: ABAG to provide lecture rooms, trainee personnel (not to exceed 6), and computer equipment and to set schedule.

BUDGET: \$6,600

TASK: Coordinate with Management Plans and Data Collection

PURPOSE: The purpose of this task is to insure that the surface runoff management plan, the data collection tasks, and initial work will be consistent with the development and the special use of the storm runoff model.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 1 to Month 3 (initial)  
Month 3 to Month 20 (ongoing)

INPUTS: No specific ones

MAJOR PRODUCTS AND EVENTS:

Initially: A meeting of the Water Quality and stormwater runoff modelers; the Water Quality monitoring consultant; and the 208 (and Water Quality) coordinator to discuss needs and expectations.

Ongoing: The 208 (or Water Quality) coordinator shall perform a continuous liaison function among the model adaptation and operation tasks, the Water Quality monitoring tasks, and the surface runoff management plans to provide information for program development.

METHOD: This task will involve communication with the data collection tasks and the surface runoff management plans with respect to the type of information required for the models and the type of information expected back, turn-around time on model runs, the model use, etc.

COORDINATION REQUIREMENTS: As above

BUDGET: \$13,000

## WATER QUALITY ANALYTICAL PROCEDURES

This model will translate the effect of surface runoff as well as other point and nonpoint source discharges into the Bay as water quality changes in the Bay. It will consist of the adaptation of an already developed model.



TASK: Specify Inputs and Outputs of the Water Quality Model

PURPOSE: The purpose of this task is to specifically define the inputs and outputs of the model.

RESPONSIBILITY: ABAG/Contractor

START & COMPLETION DATES: Month 1 through 2

INPUTS: Data from point and nonpoint sources other than from the surface runoff models. River flows to be used, tides (s) to be used. Output information desired by assessment and evaluation task groups.

MAJOR PRODUCTS AND EVENTS: Specific model input requirements for hydraulic simulations and for quality simulations will be listed. All dimensions, i.e., pounds per day, mg/l, etc., will be specified. The form of the input information will be defined, i.e. tables, maps, etc. The output formats of the surface runoff models must interface with the input formats of the water quality models.

Model printed output will be described, including parameters, units, time scales, etc. Output must be clearly labeled and easy to read. It will satisfy the requirements above (see INPUT).

METHOD: This is a key early task in that it will have to be closely coordinated with the analogous tasks for the storm runoff model, as the outputs of the storm runoff model will serve as inputs to the water quality model. The task will also impose restrictions on the municipal waste discharges management plan, as those discharges must be described in terms that are usable in the water quality model.

COORDINATION REQUIREMENTS: Input formats must coincide with output formats of the surface runoff models. Printed output must satisfy assessment and evaluation task groups.

BUDGET: \$3400

FURTHER NOTES: The 19 year average tide developed by the Corps of Engineers will be evaluated for use throughout the study.

The area south of Dumbarton Bridge is strongly influenced hydraulically by point source hydraulics; this is in contrast to the remainder of the Bay system. Basic hydraulics of Bay-Delta system may be one or at most two hydraulic cases, first flush river flows and the average rainy season flows. Area south of Dumbarton Bridge could have same basic two, each with and without San Jose, Palo Alto, Sunnyvale, and Union City-Irvington flows, plus flows from surface runoff. If measures are taken during the analysis to modify surface runoff flows, i.e., storage, this could mean up to four additional hydraulic runs.

All point source input hydraulics and quality to the water quality model is modified somewhat by a storm. For a dynamic quality analysis, some means of adjusting the point source quality parameters from the steady dry weather flow (DWF) condition must be used. An algorithm might be developed and applied to all point source DWF quality. A similar algorithm can be used for DWF hydraulics for point sources south of Dumbarton Bridge.

This task presumes model has been chosen.

TASK: Adapt Model for Runoff Analysis

PURPOSE: The purpose of this task is to adapt what will likely be an existing model to provide the necessary special detail to accommodate the transient nature of storm events.

This task will involve the use of non-steady state models for the Bay to determine the transient effects of storm events on water quality. The model must also accommodate some other nonpoint sources (conceivably vessel wastes) as well as the discharge from municipal and industrial point sources. In addition, the model should be available for use on the local level, as, for example, to analyze the effect of San Mateo County runoff on the shellfish off the San Mateo County shores. In other words, the model should be capable of use on both local and regional levels. To put it another way, the model should be capable of use at the local or subregional level without the necessity for supplying region-wide inputs.

RESPONSIBILITY ABAG/Contractor

START & COMPLETION DATES: Months 1 through Month 6

INPUT: Model Geometry, necessary maps of S.F. Bay

MAJOR PRODUCTS & EVENTS: The grid system representing the San Francisco Bay-Delta should be of sufficient detail to reflect local water quality changes. It should not be of such fine detail that computer costs become overwhelming. The 'coarse grid' representation developed in past studies is probably too coarse, but is the most likely candidate for modification of detail in critical areas. The major output of this task will be a grid system representation of the Bay-Delta of acceptable detail. It will be validated hydraulically and validated for quality parameters.

METHOD: Use techniques used when 'coarse grid' was developed.

COORDINATION REQUIREMENTS: Detail should be concentrated in known or anticipated water quality problem areas.

BUDGET: \$18,600

TASK: Run Water Quality Model

PURPOSE: The purpose of this task is to run the water quality model to provide support to the development of management plans and the regional assessment tasks.

The model must be run throughout the preparation of the management plan. It will be run on demand from those persons responsible for management plans and those responsible for regional assessments. Therefore, a prime criterion for running the model would be rapid turn-around time.

RESPONSIBILITY: Contractor

START & COMPLETION DATE: Month 7 through Month 24

INPUTS: Information from surface runoff model; point sources.

MAJOR PRODUCTS: Each run will provide output specifying transient receiving water quality response to point and surface runoff quality inputs.

METHODS: Run with alternative input parameters.

COORDINATION REQUIREMENTS: In view of many options of storm runoff input and water quality model options, a bookkeeping system must be set up and maintained, showing the appropriate coordination. Contractor must have at least one person available to make runs at any time.

BUDGET: \$85,000



TASK: Coordinate with Management Plans and Data Collection

PURPOSE: The purpose of this task is to insure that persons responsible for the preparation of management plans and collection of data understand the relationship of their task to the water model.

The model should also be coordinated with the task on the development of water quality objectives, as information must be developed by the model that is pertinent to the water quality objectives.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE:

INPUTS: No specific inputs

MAJOR PRODUCTS AND EVENTS:

Initially: A meeting of the water quality and stormwater runoff modelers; the water quality monitoring consultant; and the 208 (and water quality) coordinator to discuss needs and expectations.

Ongoing: The 208 (or water quality) coordinator shall perform a continuous liaison function among the model development and operation tasks; the water quality monitoring tasks; and the surface runoff management plans to provide information for program development.

METHODS & COORDINATION REQUIREMENTS: As above.

BUDGET: \$13,000

TASK: Transfer Model Capability to ABAG

PURPOSE: The purpose of this task is to transfer the capability for adaptation and use of the water quality model to the ABAG staff.

This is a key task and will occur late in the program. It should be the subject of a formalized training program. It would be desirable to have the transfer of model capability begin as early as possible, to the point of having key ABAG staff members participate in running the water quality model during the development of the environmental management plan.

RESPONSIBLE AGENCY: ABAG/Contractor

START & COMPLETION DATE: Month 22 to Month 24

INPUT: The water Quality model, both hydraulic and quality computer programs, will be installed on the ABAG computer. A test data deck and appropriately stored storm runoff model will be provided to ABAG. Reproducible copies of documentation and a user's guide will be provided.

One month of "hands'on" training, using ABAG equipment will be provided, and will include necessary lectures, examples, and problems to fully train ABAG personnel in the use of the water quality model.

METHOD & COORDINATION REQUIREMENTS: ABAG to provide lecture rooms, trainee personnel (not to exceed 6), and computer equipment and to set schedule.

BUDGET: \$6600

## AIR QUALITY ANALYTICAL PROCEDURES

See section on Air Quality Maintenance Management Plan for a description of these tasks.

## ASSESSMENT AND EVALUATION

This is the key regional supporting task. Assessment is the process of identifying and measuring impacts of employing a set of control measures. Evaluation is the process that identifies which impacts (identified in assessment) are acceptable by some standard (legislated, technical, public) and which are not, and therefore, require some mitigation measure or some adjustment in control measures.

The task consists of either the development of assessment procedures or the coordination of assessment procedures, such as mathematical models developed or adapted in other tasks. This task also will develop techniques and information to be used by staff preparing management plans in their screening and assessment of alternative control measures. Its most critical use will be in the last six months of the study, when the management plans must be integrated, adjusted, and finally, their regional impacts assessed.



TASK: Confirm Assessment Criteria.

PURPOSE: To confirm a list of measures and criteria already prepared in preliminary form which will be used to describe effects, identify during process of assessing and evaluating potential control measures.

RESPONSIBILITY: ABAG, consultant.

START AND COMPLETION DATE: Month 0 to month 2.

INPUTS: Candidate control measures; quantification of air, water quality, solid waste, goals and objectives; analysis and description of local policies; description of regional policies; information on preferences of citizens, EMTF, etc.

MAJOR PRODUCTS AND EVENTS: Lists of 1) measures for describing effects in terms of a) duration, b) location, c) frequency. 2) Indicators for evaluating effects with respect to a) air quality objectives, b) water quality objectives, c) solid waste objectives. 3) Indicators for evaluating feasibility of control measures with respect to a) public acceptability, b) political acceptability, c) cost, etc. 4) Criteria for evaluating effects with respect to a) local policies, b) regional policies, c) other State and Federal requirements. Lists should be arranged to indicate at which planning lever (i.e., local, sub-regional, areawide) particular criteria or measures would be applied.

METHOD: Review statutory objectives; existing environmental problems; local and regional policies; responses from citizens and local officials information on institutional and financial arraignments and constraints. Based on analysis of these, determine what information needs to be obtained from assessment process and at which jurisdictional level that information can most likely be obtained. Review existing assessment and evaluation criteria to determine whether they are sufficient to provide information required at the necessary level of specificity.

COORDINATION REQUIREMENTS: Special studies, data base, institutional-financial, water quality objectives, citizen participation, EMTF and program review board involvement is needed.

BUDGET: \$4,600.

TASK: Describe Candidate Control Measures.

PURPOSE: To describe those control measures to be considered by all management plans and to describe implementation measures appropriate for carrying them out.

RESPONSIBILITY: ABAG and Consultant.

(This task will be further subdivided to develop control measures particular to each management plan.)

START AND COMPLETION DATE: Before month 0 to month 2.

INPUTS: Description of environmental problems to be addressed by geographic area; description of implementation techniques available; description of various measures available for addressing environmental problems; information on institutional and political constraints to imposition of particular measures or implementation techniques.

MAJOR PRODUCTS AND EVENTS: 1) A detailed list of control measures and the techniques for their implementation which could be used to achieve air, water quality and solid waste objectives. For each control measure indicate: a) specific problem to be addressed; b) types of situations in which measure would be appropriate in terms of relevant, geographic, hydrologic, demographic and other characteristics; c) potential constraints to its application including public acceptability, legality, cost, etc., d) techniques which could be used for carrying out control measures including criteria for identifying situations in which specific techniques are more appropriate than others.

2) Lists of control measures and implementation techniques recommended for consideration by specific subregional and local agencies.

METHOD: Review existing lists of control measures and implementation techniques. Identify additional measures and techniques. Evaluate lists with respect to information on 1) Area specific environmental problems, 2) local policies, 3) response from citizens, EMTF, etc., 4) institutional-financial constraints, 5) costs. Formulate criteria for identifying situations in which specific types of measures and implementation techniques would be appropriate.

COORDINATION REQUIREMENTS: Management plans, institutional-financial, citizen participation, water quality objectives, data base.

BUDGET: \$4,600.

TASK: Describe Specific Inputs to Assessment Procedures.

PURPOSE: To provide early information to staff involved in development of management plans and analytical models to ensure that control measures are described in terms which are applicable to assessment and evaluation criteria and can be used as inputs to predictive techniques proposed for use.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 1 to month 4.

INPUTS: Candidate control measures; assessment and evaluation criteria; information on preferences and concerns of citizens EMTF, etc; quantification of air, water quality and solid waste goals and objectives; management plan work programs; data base work programs; modeling work programs.

MAJOR PRODUCTS AND EVENTS: 1) Lists of specific data items needed to apply each of the proposed assessment and evaluation criteria. 2) Lists of specific data inputs needed to activate each proposed analytical model.

METHODS: Review assessment and evaluation criteria and identify appropriate units of measurement for each. Review predictive techniques to determine inputs necessary for utilization. Review control measures to determine what information would be required about each in order to quantify effects in units identified, or as inputs required above.

COORDINATION REQUIREMENTS: All management plans, all modeling programs, data base, institutional-financial population land use employment.

BUDGET: \$4,600.



TASK: Develop Assessment Procedures.

PURPOSE: To identify and develop procedures and techniques, not covered in other tasks, for identifying, measuring and evaluating the effects of potential control measures at all jurisdictional levels.

RESPONSIBILITY: ABAG, consultants.

START AND COMPLETION DATE: Month 1 to month 6.

INPUTS: Candidate control measures; assessment and evaluation criteria; description of existing conditions (environmental, social, economic, political, institutional). Identification and description of impact areas to be considered in terms of: 1) relevancy to statutory objectives and requirements, 2) public acceptability and concerns, 3) political and institutional constraints, 4) regional policies, 5) local policies, 6) other State and Federal requirements.

MAJOR PRODUCTS AND EVENTS: 1) Technical memoranda detailing mathematical models and other analytical techniques that can be used to a) measure likely effects of individual control measures or combinations of control measures, b) test effectiveness of mitigation measures or changes in strategies proposed to alter undesirable effects. Such reports should a) identify and describe various predictive techniques, b) provide criteria for determining their applicability or suitability in various types of situations, c) identify inputs necessary for each technique.

2) Reports detailing a) assessment and evaluation tasks to be carried out at local or subregional levels including specification of

- (1) types of effects to be identified and evaluated,
- (2) measures, criteria and indicators to be used to describe these effects,
- (3) anticipated products.

b) assessment and evaluation tasks to be carried out at regional level including

- (1) inputs required from local and subregional process,
- (2) types of effects to be identified and evaluated,
- (3) measures, criteria and indicators to be used to describe effects,
- (4) anticipated products.



METHODS: Review available predictive techniques and determine their adequacy and applicability. Develop assessment methods and techniques as necessary to enable identification of all effects that should be evaluated. Determine capability of local or subregional entities to perform assessment tasks. Identify effects to be evaluated at each jurisdictional level and techniques appropriate for use.

COORDINATION REQUIREMENTS: Management plans, data base, institutional-financial, population, land use, and employment, storm runoff modeling, water quality modeling, air quality modeling, are the tasks which require coordination. Citizen participation, EMTF and program review board, study manager and administrators will all be involved.

BUDGET: \$11,400.

TASK: Integrate Assessment Procedures into an Assessment System.

PURPOSE: To develop a system of integrated assessment procedures including mathematical models and other analytic techniques that will be the basic information generating system used for local and regional assessments.

RESPONSIBILITY: ABAG and consultants.

START AND COMPLETION DATE: Month 2 to 6.

INPUTS: Candidate control measures, assessment and evaluation criteria, assessment procedures including mathematical models and other analytic techniques, data base program outputs.

MAJOR PRODUCTS AND EVENTS: 1) Outlines and flow charts describing linkages between each potential control measure and each analytic technique (see task on using PLUM model for assessment) that would be used for assessing and evaluating its effects.

- 2) Procedures and techniques for converting assessment and evaluation indicators into input for use by analytic models.
- 3) Lists of required output of each analytic model required either for assessment and evaluation or for input into another analytic model.

METHODS: Review predictive techniques to determine inputs necessary for utilization. Review available data inputs. Determine relationships between available data, types of inputs needed to activate models, and model outputs.

COORDINATION REQUIREMENTS: Model programs, data base, institutional-financial, population, land-use, and employment tasks should be coordinated with this integration.

BUDGET: \$6,900.

TASK: Operate Assessment System.

PURPOSE: To operate an assessment system involving analysis, assessment and evaluation at the local level and integrating the products of that work with analysis, assessment and evaluation carried out in the process of developing areawide management plans.

RESPONSIBILITY: ABAG, Local Agencies, Consultants.

START AND COMPLETION DATE: Month 6 to month 13.

INPUTS: Projections of base cases conditions without management plans against which changes resulting from implementation of control measures can be evaluated; control measures; assessment and evaluation criteria; assessment and evaluation procedures; data base; all modeling programs; management plans; institutional-financial; Integration of Management Plans; Study Management and Administration; outputs from local assessment and evaluation.

MAJOR PRODUCTS AND EVENTS: 1) Reports and diagrams detailing outputs of assessment and evaluation of effects of alternative and proposed local surface runoff plans which indicate:

- a. Potential measures for mitigating effects determined undesirable
  - b. Potential unavoidable adverse effects.
- 2) Reports and diagrams detailing assessment and evaluation of alternative areawide management plans proposed for air quality; municipal wastewater; non-point sources; industrial discharges; water conservation, reuse and supply; solid waste which indicate mitigation measures and unavoidable adverse effects.
  - 3) Reports and diagrams detailing output of assessment and evaluation of effects of alternative combinations of local surface runoff management plans including mitigation measures and unavoidable adverse effects.
  - 4) Reports and diagrams detailing output of assessment and evaluation of alternative combinations of proposed regional management plans.
  - 5) Reports and diagrams detailing output of assessment and evaluation of preferred combination of regional management plans and specifying mitigation measures and unavoidable adverse effects.

## METHODS:

1. At local level, identify and evaluate condition changes and potential effects associated with alternative combinations of surface runoff control measures and implementation strategies. Identify and evaluate condition changes and potential effects associated with proposed combination of control measures and implementation strategies and review to determine what steps can be taken to alter undesirable affects and which effects are unavoidable.
2. Using output from local assessment, conduct successive examinations to determine condition changes and effects associated with different combinations of local runoff management plans.
3. Assess and evaluate alternative areawide management plans for surface runoff; air quality; municipal wastewater; non-point sources; industrial discharges; water conservation; solid waste.
4. Assess and evaluate preferred areawide management plans; identify mitigation measures and unavoidable adverse effects.

COORDINATION REQUIREMENTS: Management plans, data base, modeling programs, integration of management plans, study management and administration, institutional-financial tasks. Considerable citizen and public agency involvement will be required in evaluation.

BUDGET: \$46,000.



TASK: Compile Assessments.

PURPOSE: Compile assessment and evaluation output for all management plans to reconcile inconsistencies and provide basis for documenting process used to select preferred areawide strategies.

RESPONSIBILITY: ABAG, consultants, EPA.

START AND COMPLETION DATE: Month 14 to month 16.

INPUTS: Reports detailing results of assessment and evaluation of local surface runoff plans and areawide management plans, comments from participating agencies, citizens and EMTF.

MAJOR PRODUCTS AND EVENTS: Analysis, assessment and evaluations reports to be used by EPA to prepare assessment document for public and agency review in compliance with the National Environmental Policy Act and the California Environmental Quality Act.

METHODS:

1. Review assessment and evaluation output produced in conjunction with preparation of alternative local surface runoff plans;
2. Review assessment and evaluation output produced at regional level for areawide management plans;
3. Review comments from participating agencies, program review board, EMTF;
4. Adjust data inputs and plan outputs as necessary to reconcile inconsistencies;
5. Draft reports and prepare diagrams as necessary to document overall assessment and evaluation process, identify mitigation measures and unavoidable adverse effects.
6. Assist EPA staff in preparation of assessment document.

COORDINATION REQUIREMENTS: Data Base, Modeling Programs, Integration of Management Plans, Study Management and Administration, Report Preparation tasks are key and EMTF and Program Review Board Review is required.

BUDGET: \$6,900.

TASK: Develop and Describe Continuing Planning Process with Respect to Assessment.

PURPOSE: The purpose of this task is to describe those aspects of the continuing planning process peculiar to assessment for review and eventual use by all agencies.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 15 to 16-1/2.

INPUTS: Continuing planning process (Tasks: initial description and analysis of the planning process), description of the local continuing planning process, description of proposed regulatory programs for Air Quality, Water Quality, and Solid Waste Management programs. Review of current environmental impact procedures from the institutional and financial program, description of projection methods from the plan integration program.

MAJOR PRODUCTS AND EVENTS: A paper identifying limitations imposed upon assessment and evaluation during the two year planning period, owing to time and cost limitations, availability of assessment techniques, and other constraints.

A report relating regional assessment to state and national legislation for environmental assessment and to current local practices.

A critique of the limitations of current practices.

A paper identifying the opportunities and limitations of applying assessment procedures to regulatory and other operational actions of a continuing nature.

Draft procedures to be used as criteria for designating management agencies.

METHODS: Document programming limitations placed on the assessment program. Review existing legislation and survey procedural and legislative problems, and survey predictive techniques for operating agencies.

COORDINATION REQUIREMENTS: Continuing planning process, study management and coordination, institutional/financial, special studies will all have to be coordinated with this task.

BUDGET: \$3,000.

TASK: Evaluate Environmental Management Plan Alternatives.

PURPOSE: The purpose of this task is to evaluate the environmental management plan alternatives to ensure compliance with program objectives.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 17 to month 19.

INPUTS: Regional assessment, public and agency comments.

MAJOR PRODUCTS AND EVENTS: For each management plan, a report on the advantages, disadvantages, costs and consequences of alternative problem solutions will be prepared and presented to the EMTF for resolution.

METHODS: (1) For each Management Plan, summarize

- a) previous actions by the EMTF
- b) comments and actions by other agencies
- c) other public comments and reactions
- d) remaining unresolved issues

(2) For each Management Plan

- a) describe alternative solutions or approaches to resolving the remaining issues
- b) based upon the regional assessments array the costs, consequences, advantages and disadvantages for each alternative. This information will include an identification of the relationships between control measures and strategies directed toward solution of one environmental problem on other problems.
- c) examine previous EMTF actions for consistency of assumptions.

(3) Present 1) and 2) to the EMTF for guidance and action

(4) Describe choices, mitigation measures, and impacts in final assessment document.

COORDINATION REQUIREMENTS: BAAPCD, MTC, BASSA staffs.

BUDGET: \$12,000.

## INSTITUTIONAL AND FINANCIAL\*

This group of tasks will provide the institutional and financial support to the development and implementation of planned environmental control measures. It is divided into three major phases. The first phase involves the collection and preparation of information describing the present institutional and financial system. The second phase consists of an evaluation of that system with respect to its ability to implement the various proposed environmental control measures; the formulation and proposal of specific institutional and financial plans to incorporate the control measures will also be undertaken during this phase. The third phase includes the development, where necessary, of regional institutional and financial measures in addition to a description of those institutional and financial aspects produced in the continuing planning process.

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\*Institutional is taken primarily to mean governmental.



## PHASE I

TASK: Describe the present institutional and financial system

PURPOSE: The purpose of this task is to collect and prepare information on the current institutional and financial system responsible for environmental management to aid in regional and local institutional analysis.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 6

INPUTS: Locally provided information on agency roles and responsibilities and finances, state and regional institutional data collected by ABAG, air and water quality implementation techniques collected by ABAG.

MAJOR PRODUCTS AND EVENTS: The output from this task will be a technical memorandum which includes:

- An identification of all relevant local, county, and other agencies, and a description of their organizational structures, legal authorities, current operating management functions, financial tools and capabilities, etc.
- A discussion of the process wherein each agency functions and interacts with other agencies in the overall institutional context impacting the region.
- An identification and description of the institutional and financial mechanisms available to environmental management agencies for implementing such control measures as may be identified in the individual management plans.

METHODS: Cities, counties and other local 208 participants will be collecting this information in concert with ABAG. A variety of sources and techniques will be used during the completion of this task so that the resulting technical memorandum will be as comprehensive and useful as possible.

COORDINATION REQUIREMENTS: The local policies collected by ABAG and the information furnished by county and local 208 participants will input to this task. This technical memorandum will be used in the development of institutional and financial mechanisms for each of the management plans.

BUDGET: \$25,000

## PHASE II

**TASK:** Evaluate existing system regarding implementation of control measures

**PURPOSE:** This task is designed to analyze the present institutional and financial environmental management system and evaluate that system with respect to its ability to incorporate the control measures proposed under each separate management plan.

**RESPONSIBILITY:** ABAG

**START AND COMPLETION DATE:** Month 6 to month 10

**INPUTS:** Each management plan will feed to this task the candidate control measures to solve the technical problems addressed by that plan. The description of the present institutional and financial system accomplished in the previous task will also be a necessary input so as to provide the existing management framework within which control measure implementation will be evaluated.

**MAJOR PRODUCTS AND EVENTS:** A technical memorandum, accessible to all planning participants, will be the products of this task. This memo will evaluate the current system's ability to incorporate the individual control measures generated by the management plans. Where there is more than one agency with enabling legislation authorizing it to administer a given control measure, all such agencies will be identified. Conversely, where there are no existing vehicles for a particular control measure, these gaps in authority will receive attention. A necessary part of the discussion will also be the degree to which interactions between and within entities of the institutional system affect the implementability of given control measures.

**METHOD:** The completion of this task will involve the application of evaluation criteria. These criteria will be based on the ability of institutions, individually or in combination to incorporate the various control measures proposed in the separate management plans.

**COORDINATION REQUIREMENTS:** All the management plans and policy bodies.

**BUDGET:** \$12,500

TASK: Provide institutional and financial support to management plans

PURPOSE: This task will be undertaken in conjunction with the development of institutional and financial measures within each of the management plans. The common objective of the plans and this supporting task is to formulate specific institutional and financial strategies to implement the proposed control measures. This task in particular seeks to foster the coordination of these strategies with the existing environmental management system.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 6 to month 13

INPUTS: Candidate control measures developed in the various management plans will feed into both this task and the tasks listed under each management plan which seek the development of institutional and financial implementation measures. Also important to the completion of this task are the two technical memoranda which describe and evaluate the present environmental management system.

MAJOR PRODUCTS AND EVENTS: The products of this task will be the alternative institutional and financial strategies to implement the control measures specified for each management plan. To the degree that this is a support task, these outputs will be incorporated within the separate management plans.

METHOD: Criteria will need to be identified during the completion of this task. These criteria will be "solution-oriented" and will consist of concerns such as the relative capacity of different institutions and their available financial mechanisms to implement given control measures, the optimal degree of fit between candidate control measures and the existing management system, and so on. Application of these criteria will be undertaken in conjunction with the assessment process.

COORDINATION REQUIREMENTS: All management plans and assessment with EMTF playing a key role.

BUDGET: \$33,000



### PHASE III

**TASK:** Provide regional institutional and financial measures where necessary.

**PURPOSE:** The final integration of the separate management plans has as its objective the harmonizing of the various planning elements to ensure that the outcome is not a group of "mini-plans" but one comprehensive and coordinated plan. Where this integration points to a need for regional participation in the overall environmental management program, this task will develop the applicable institutional and financial measures to implement such participation.

**RESPONSIBILITY:** ABAG

**START AND COMPLETION DATES:** Month 14 to month 19

**INPUTS:** Integration of the various management plans cannot take place until the planning elements together with candidate control measures and institutional and financial implementation strategies, have been individually completed. Should this integration process uncover the desirability for a continuing regional management presence, it also will input to this task.

**MAJOR PRODUCTS AND EVENTS:** The outputs from this task will be the candidate regional agency mechanisms which have been nominated as desirable for assisting in the environmental management process.

**METHOD:** The identification of candidate regional institutional and financial measures will take place based on the set of needs revealed by plan integration. This process will be coordinated with the assessment and citizen participation efforts in order to guarantee the quality and applicability of the product.

**COORDINATION REQUIREMENTS:** All management plans, the plan integration task, citizen participation, assessment with major EMTF participation.

**BUDGET:** \$12,500



TASK: Describe the institutional and financial aspects of the continuing planning process

PURPOSE: The continuing planning process will describe the method for implementation of management solutions defined during the two-year planning period. It will also portray the process to be used for resolving those issues identified during the two years which will require additional effort. The objective of this task is to specify the institutional and financial components of that continuing planning process.

RESPONSIBILITY: ABAG

START AND COMPLETION DATES: Month 14 to month 19

INPUTS: The continuing planning process will, of course, be an outgrowth of all planning efforts. In similar fashion, the institutional and financial aspects of this process will stem from all prior institutional and financial work.

MAJOR PRODUCTS AND EVENTS: The output from this task will center on a description of the process whereby the institutional and financial strategies to emerge from the two year effort will be implemented. Additionally, in areas where the two year period was insufficient to develop adequate control measures, possible topics of institutional and financial concern will be discussed.

METHOD: The conduct of this task will be a function of the conduct of the overall continuing planning process task.

BUDGET: \$17,000

## WATER QUALITY OBJECTIVES

These tasks will develop new water quality objectives for use in future Bay Area water quality planning. Emphasis will be placed on areas, types of discharges and constituents for which no objectives exist or for which objectives are clearly inadequate. Major work effort will be directed towards municipal wet weather overflows and bypasses and surface runoff. The concept of "alternative levels of maintenance" for such dischargers will be examined to determine its applicability to all waters of the bay and ocean.

TASK: Review existing water quality objectives and propose trial modifications

PURPOSE: To examine existing water quality objectives, criteria, standards and guidelines and propose modifications or new objectives.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0; to Month 6

INPUTS: Basin Plan; data management task; information from tasks on municipal dischargers, industrial dischargers, runoff, nonpoint sources and water supply conservation and reuse.

MAJOR PRODUCTS AND EVENTS: A list of existing RWQCB, SWRCB, and EPA water quality objectives for municipal, industrial, runoff and nonpoint sources; a list of area, types of discharges, and constituents which do not have adequate objectives (such as wet weather discharge standards from municipal point sources); a list of proposed or modified objectives.

METHOD: Review existing objectives; review suggested revisions based upon comments in existing reports (Basin Plan, BASSA coordinated monitoring report, testimony at public hearings on SWRCB and RWQCB objectives); consult with Basin Contractor, RWQCB and SWRCB staff; review preliminary work on point and nonpoint sources; an extensive analysis of applying the concept of "alternative levels of maintenance" for beneficial uses to all portions of the bay and ocean for wet weather and surface runoff discharges.

COORDINATION REQUIREMENTS: All tasks on point and nonpoint sources; water quality model tasks. Substantial communication with other water agencies will be required.

BUDGET: \$10,000

TASK: Reassess objectives based on new information

PURPOSE: To review adequacy and sufficiency of objectives developed in previous task and to make modifications as necessary.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 6 to Month 9

INPUTS: Previous task on objectives; all tasks on point and nonpoint sources.

MAJOR PRODUCTS AND EVENTS: Revised list of objectives for use in analysis of point source and nonpoint source work and water quality model studies.

METHOD: Assess comments developed as a result of proposing water quality objectives in the previous task; assess and evaluate potential impact of originally proposed objectives.

COORDINATION REQUIREMENTS: All tasks on point and nonpoint sources; water quality model task. Clearly the general public and EMTF are major reviewers of the products listed.

BUDGET: \$3,000



TASK: Document new water quality objectives

PURPOSE: To propose specific new water quality objectives and suggest revision of existing objectives.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 9 to Month 10

INPUTS: Previous two tasks on water quality objectives.

MAJOR PRODUCTS AND EVENTS: A final list of new water quality objectives for areas, constituents or types of discharges for which no or inadequate objectives exist; such a list will include wet weather discharge standards and runoff standards for protection of shellfish and other beneficial uses; possible statistical objectives based on probability rather than absolute limits; objectives for nonpoint sources such as erosion control; a schedule for adoption of new objectives.

METHOD: Review work accomplished in previous water quality objectives tasks; receive input from task on point and nonpoint sources; public and EMTF input; analyse impacts on new objectives.

COORDINATION REQUIREMENTS: Public; EMTF; tasks on point and nonpoint sources; tasks on institutional/financial mechanisms.

BUDGET: \$3,000

TASK: Refine and describe final water quality objectives

PURPOSE: To refine final water quality objectives based on public input and analysis of regional assessment/evaluation for use beyond the two year period.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 14 to Month 18

INPUTS: Previous work on objectives; EMTF and public input; regional assessment and evaluation.

MAJOR PRODUCTS AND EVENTS: Revised list of objectives; rationale for revisions; schedule for adoption.

METHOD: Obtain feedback from public and EMTF on objectives; obtain and analyze findings of regional assessment and evaluation of proposed control measures (including objectives); determine impacts of objectives.

COORDINATION REQUIREMENTS: Public; EMTF; tasks of regional assessment and evaluation.

BUDGET: \$4,000

## CONTINUING PLANNING PROCESS

The following tasks describe the development of the continuing planning process at the regional level. Each of the management plans and many of the supporting regional programs include tasks late in the study program to define what is required in the continuing planning process with respect to each of those management plans or programs. The tasks described in the following pages are concerned with the integration of those individual descriptions into a continuing planning process for the entire region.

The anticipated functions of the continuing planning process are discussed in the section of the work program on products.

TASK: Describe current planning procedures and practices

PURPOSE: The purpose of this task is to identify, by agency, current responsibilities for air and water quality and solid waste planning, and to describe planning and related programming activities such agencies carry out or are empowered to carry out.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 2

INPUTS: Background Information and Problem Definition from the AQ, WQ, and Solid Waste Work Programs. Minutes of EMTS and Program Review Board meetings. Study management and coordination contracts.

MAJOR PRODUCTS AND EVENTS: (1) A report, written as a popular summary, describing the current planning process for environmental management in the Bay Area. (2) A series of working papers, organized by planning function, which analyze and detail current status of planning work including major assumptions, major tasks, degree of technical support, level of funding, and source of mandate (i.e., legislative, federal requirements, or other). (3) Projects and schedules of ongoing planning functions, including programmed assumptions of future work. (4) A memorandum indicating institutional issues to be resolved through the design of the continuing planning process.

METHODS: Review existing plans and work programs. Research statutes and regulations. Refer also to major public announcements.

COORDINATION REQUIREMENTS: Air Quality, Water Quality and Solid Waste Management Plan Tasks, Institutional and Financial Program Tasks, Citizen Participation.

BUDGET: \$4,000



TASK: Analyze planning process and management plan continuing planning processes

PURPOSE: The purpose of this task is to integrate and analyze those recommendations from individual management plans and from regional planning programs concerning what should be included in the continuing planning process.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 14 to month 16

INPUTS: Continuing Planning Process descriptions from each of the institutional management plan programs, including a description of the local continuing planning process (surface runoff program). A description of data management for the continuing planning process from the DATA Base program. Description of projection methods, and of ongoing assessment procedures from the Regional Supporting Services and Plan Integration program.

MAJOR PRODUCT AND EVENTS: A paper describing the major characteristics of the continuing planning process. A report identifying major issues which must be resolved before a continuing planning process can be put into operation. A detailed work program for development of the continuing planning process. A draft of a popular summary of the continuing planning process usable for EMTF and Program Review Board discussion.

METHODS: Based on descriptions of proposed regulatory programs, identify administrative operations and incentives which could be employed in maintaining such regulatory programs. Identify overlapping agency functions and possible administrative and financial efficiencies through reallocation of functions. Identify integration requirements for management programs and develop options and performance criteria for coordination.

COORDINATION REQUIREMENTS: Institutional and Financial, Assessment and Evaluation, Study Management and Administration, Citizen Participation, EMTF and Program Review Board Meetings.

BUDGET: \$16,000

TASK: Develop and describe the continuing planning process

PURPOSE: The purpose of this task is to describe the continuing planning process for the region.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 16 to month 20

INPUTS: Analysis of the planning process

MAJOR PRODUCTS AND EVENTS: A popular summary description of the Continuing Planning Process. Recommendations for action by the EMTF and possibly the Regional Planning Committee and Executive Board of ABAG. Selection criteria usable in the designation of management agencies. Proposals for new programs, interagency agreements and possibly new legislation. The Continuing Planning Process described is to be included within the 208 plan for certification by the State and approved by EPA. This description will also be included as the major part of the draft Environmental Management Plan.

METHODS: Carry out work program for developing the continuing planning process. Evaluate citizen participation responses and select alternatives which have broad public support. Submit draft resolutions to EMTF and modify if necessary. Identify conditions for designation of management agencies and funding approvals.

COORDINATION REQUIREMENTS: Assessment and evaluation, institutional and financial, integration of management plans, citizen participation, EMTF and program review board meetings.

BUDGET: \$10,000

## PUBLIC PARTICIPATION

### Introduction

The purpose of the public participation portion of the work program is to describe the approach, organization, and methods that will be used to ensure active public participation to the fullest extent practicable - consistent with the requirements of the Federal Water Pollution Act, as amended (P.L. 92-500), and with the requirements of the Clean Air Act of 1970. Guidelines prepared by the U. S. Environmental Protection Agency state:

"The success of a 208 plan depends on its acceptance by affected units of local government. It is important that the general public in the 208 area be actively involved in plan development and that public participation in the later management phase of the plan be encouraged. Due to the complexity of the 208 planning, it is necessary to provide a structured program of public involvement to assure adequate exchange of information and opinion between the public and the planning agency."

The objectives of public participation are:

- 1) to increase awareness of the needs for abatement and prevention of air, water and solid waste pollution;
- 2) to provide information and feedback from the public to assist elected officials and planners in identifying local interests and in understanding perceptions of problems and needs;
- 3) to identify and help resolve conflicts among concerned interests so that decisions can be made by general agreement;
- 4) to develop trust and commitment concerning the final plan through frank and open interaction among elected officials, planners and the various publics;
- 5) to increase understanding of air and water quality, solid waste, and other issues, as parts of an overall environmental management program.

Legal requirements for public participation are contained in the Act, described above, and in Part 105, Subchapter D, Chapter 1, CFR, Title 40, of the E.P.A. regulations titled "Public Participation in Water Pollution Control":



"Participation of the public is to be provided for, encouraged, and assisted to the fullest extent practicable consistent with other requirements of the Act in Federal and State government water pollution control activities. The major objectives of such participation include greater responsiveness of governmental actions to public concerns and priorities, and improved popular understanding of official programs and actions. Although the primary responsibility for water quality decision-making is vested by law in public agencies at the various levels of government, active public involvement in and scrutiny of the intergovernmental decision-making process is desirable to accomplish these objectives. Conferring with the public after a final agency decision has been made will not meet the requirements of this part. The intent of these regulations is to foster a spirit of openness and a sense of mutual trust between the public and the State and Federal agencies in efforts to restore and maintain the integrity of the Nation's waters."

In general, the public participation effort in the San Francisco Bay Area 208 program will be characterized by a collaborative approach with elected officials and professional staffs working in collaboration with the various public involved. This approach will emphasize making environmental decisions with the public - rather than for them, and will provide for public participation at both local and regional scales of involvement.

208                      Public  
planning

#### A COLLABORATIVE APPROACH...

This approach is designed to:

- A. provide a decentralized public participation structure to ensure that local as well as regional air, water and solid waste pollution issues are included.
- B. include all sectors of the public as described below.
- C. generate active public participation during each step of the planning process, and means for public involvement in decisions as the program proceeds.
- D. develop public support and commitment during subsequent implementation phases.
- E. provide for periodic reviews and revisions of implementation programs - by the public - at local and regional levels and the means to appeal implementation and management decisions.



During the planning phase, citizens will be provided ample opportunity to describe their ideas, concerns and issues at the outset and during each stage of the planning work. As each stage nears completion, draft copies and summary "fact sheets" will be distributed for public review where technically feasible. Public workshops, meetings, and discussions will be held to identify public comments prior to completion of major planning stages. In addition, public hearings will be held - prior to adoption of the Plan - to ensure that public comments, and comments from public agencies and other institutions, are received and adequately considered.

A broad ranging public information program will be undertaken by ABAG to describe the planning program, and to keep the public informed about each step in the planning process. This program may take the form of video and other media presentations, mailings, newsletters, films, exhibits, speakers, information depositories, publications, seminars, workshops, game simulations, surveys, public presentations, and informal contacts with groups and individuals.

The public participation program will be monitored and evaluated for its effectiveness as it proceeds to ensure that desired levels of participation are achieved. The program will be revised to remedy any deficiencies that may occur.

The EPA planning guidelines visualize the public as falling into three general sectors, whose interests must be equitably balanced during the planning process. The three sectors are:

1. Type I, comprised of government institutions and pollutant dischargers; those directly responsible for air, water and solid waste pollution control.
2. Type II, comprised of special interest groups and opinion leaders, including conservation and environmental groups, academics, professional societies, and others.
3. Type III, comprised of the general public.

The structure designed for the ABAG 208 public participation program links local citizen participation interests - that offer open access to the general public (Type 3) and special interest groups (Type 2) - with a regional task force that is comprised primarily of institutional (Type 1) and special interest group representatives.

The link between local and regional participation organizations will be a "Citizens Working Group" comprised of representatives of local citizen participation interests, and representatives who are appointed from ABAG's Environmental Management Task Force.

The Environmental Management Task Force (EMTF) was established by ABAG in November 1975 to direct staff and consultants in the preparation of work programs and for planning under s. 208 of the Federal Water Pollution Control Act Amendments of 1972, and for subsequent air quality planning under the Clean Air Act of 1970. The EMTF is organized directly under ABAG's Regional Planning Committee (See diagram pg. 5).

Technical advisory committees may be established to bring together representatives of local, regional, State and Federal public agencies who are directly involved in air and water quality and solid waste issues where specific needs arise.

Local participation programs will be developed by lead agencies within guidelines established by ABAG. Local participation programs will be closely supported by ABAG Public Affairs Officers, and by a public information program designed for this purpose. In a number of Bay Area counties this may involve a coalition of existing citizen participation organizations and programs. In others, new programs may have to be established to meet EPA 208 requirements. Where specific local issues arise during the planning process special local task forces or study groups may be given special assignments related to these issues.

Citizens  
Working  
Group

Local  
Program

Regional  
Program

THE CITIZENS WORKING GROUP LINKS LOCAL  
AND REGIONAL PROGRAMS...

The Public Participation program will serve as the mechanism whereby information about the planning program process is distributed to the public, and whereby public suggestions and concerns are communicated to those developing the environmental management plan. Public participation will be continuous throughout the planning process and beyond -- at the regional and local levels. In addition, these are six stages where public participation is an essential part of the planning process. Public comments will help guide the work of each critical planning stage, and public comments at the conclusion of each stage will serve as "products" that will be instrumental in shaping the final plan. These

stages are:

1. Work Program Formulation
2. Development of Assessment Criteria
3. Identification of Problems & Needs
4. Assessment of Management Plan Alternatives
5. Development of Recommended Management Plan
6. Development of Continuing Planning Process

The public participation program will have a budget of \$300,000, distributed among the following tasks.

TASK: General Regional Public Participation.

PURPOSE: This task will ensure active public participation to the fullest extent possible -- at the regional level -- throughout the two-year planning period.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to month 24.

INPUTS: Major products from planning programs: work program, assessment criteria, problems and projections, management plan alternatives, recommended management plan, continuing planning process.

MAJOR PRODUCTS AND EVENTS: The regional public participation program will emphasize:

1. A major outreach program designed to bring information about the program to all sectors of the Bay Area public.
2. A major feedback program designed to solicit public ideas, suggestions, needs and concerns regarding water and air quality management.
3. A major two-way interactive program designed to afford opportunities for the public and planners to work together.

METHOD: Since these participation programs will function at the outset, during and after the 208 planning process, specific tools will be used. These include:

#### Outreach Program

Maililng list development  
Depositories  
Exhibits  
Mailings  
Newsletters  
News Media  
Publications  
Speeches  
Seminars\*  
Special Radio and Television presentations

#### Feedback Program

Information solicitation  
Public hearings\*  
Surveys

\* May also be two-way interactive.



## Two-Way Interactive Program

Advisory groups  
Correspondence  
Informal contacts  
Interviews  
Liaison with citizen groups  
Public meetings  
Simulation and games  
Task forces  
Workshops  
Radio and Television "call-in" shows

COORDINATION REQUIREMENTS: There are three major components of the general regional public participation program. These are:

### Environmental Management Task Force (EMTF):

The major policy group for the regional program. Comprised of elected officials, public agency representatives, and citizen groups. Responsible for the direction and completion of the areawide wastewater management plan and the air quality maintenance plan, and with their coordination with other programs.

### Citizens Working Group (CWG):

The regional citizens group - linking local citizens' organizations with the regional policy group (EMTF). Comprised of citizen members of EMTF, and citizen representatives of each local citizens' organization established for this program. The EMTF will determine the specific details of membership and procedures.

### Technical Advisory Committees (TACs):

Linking county and other local public agency staffs with the regional policy group (EMTF). Comprised of public agency members of EMTF, and public agency representatives of each county and other major jurisdictions as well as regional, State and Federal agency representatives. The EMTF will determine the membership and procedures of the TACs.

The work program for each step of the planning process will be presented to the working groups at the outset of each step of work to solicit ideas, suggestions and concerns relative to that particular phase. These presentations will be preceded by the "outreach" and "feedback" programs described above. Local suggestions and concerns will be gathered via the local public participation programs. Similar presentations and feedback will occur at appropriate points

during each planning phase. In this way, the planners will receive public input during the development of their plans rather than afterwards. Presentations will also be made to the EMTF during this planning process.

At the conclusion of each planning step, and prior to adoption, technical information and a summary "fact sheet" will be distributed for regional public review. Public meetings and other "feedback" programs will be held on each planning step to obtain public comments prior to adoption of that step of work. Modifications and revisions of the work may result from the public comments received.

At the conclusion of the Impact Assessment Stage one or more game simulation workshops may be held with the EMTF and the Working Group in order to help participants evaluate the differing impacts of alternative air and water quality and solid waste management strategies. (An example of a suitable game simulation is IMPASSE, the Impact Assessment Game, which is a method for assisting participants in understanding the consequences on a local or regional system of a proposed policy or program.)

COORDINATION REQUIREMENTS: Study management; assessment and evaluation; work plan adjustment; population, land use and employment; management plans, continuing planning process; and public hearing tasks.

BUDGET: \$300,000

TASK: Initial Stage - Work Plan Formulation.

PURPOSE: This task is for the organizational work of the public participation program and for securing public participation in the formulation of the work program.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to month 2.

INPUTS: Definition of other work program tasks.

MAJOR PRODUCTS AND EVENTS: These include identifying initial participants (this task will continue throughout the project); establishing communications channels; informing the public of ABAG's role in developing an environmental management program, and request comments; assessing public awareness of and attitudes toward environmental quality issues; promoting greater confidence among public agencies about ABAG's responsiveness to their needs; informing the region about the scope and nature of the 208 planning process and the air quality maintenance program and request comments; and establishing procedural relationships with EMTF.

METHOD: Working directly with local governments and other groups and agencies. The program will include:

1. Mailing list development, in order to identify interested and potential participants. This task will continue throughout the project.
2. News media releases, to announce the initial steps in the environmental management planning process, the area covered including maps, the staff responsible, and similar information.
3. Mailings to distribute information about the program, and to request comments.
4. Publication of relevant data about the existing conditions in the San Francisco Bay Area, in an information report, to pull together air and water quality, solid waste activities, and institutional data in convenient form.
5. Public meetings in each of the counties or major jurisdictions, to explain the planning process and to solicit expression of attitudes about the Work Program, and about air and water quality and other related environmental issues.
6. A clear statement describing what the program can and cannot do.

COORDINATION REQUIREMENTS: Citizen groups will be organized, including local advisory groups (citizen), to involve participants, establish participatory responsibilities, set up communications channels, demonstrate that participants ideas are needed, and assess attitudes toward the work program, and regional air and water quality and solid waste issues.



TASK: Assessment Criteria.

PURPOSE: This task is to seek public comments while formulating criteria for the assessment of plan alternatives.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 0 to month 3.

INPUTS: Major products from planning program related to development of assessment criteria.

MAJOR PRODUCTS AND EVENTS: To accomplish this task, the scope of the public participation program will be broadened to include:

1. Depositories (perhaps at the central public libraries in each county or major jurisdiction), to provide convenient access to technical reports and materials.
2. Exhibits, possibly in the form of movies or slide-tape shows, to illustrate the problems of air and water quality and solid waste in the region, as well as potential solutions, both technological and institutional.
3. Newsletter as part of the existing news publication Bay View, to furnish a regular channel of communication with interested groups and individuals, as well as a means of periodically reminding them of the environmental management planning process.
4. Speeches, directed at various types of participants, to explain the available alternatives and their implications (drawing on both the staff and working group members as speakers and using exhibits if possible).
5. Public meetings, to explain the assessment criteria for subsequent evaluation and alternative proposals under consideration, and to receive feedback from the public and participants concerning their acceptability.
6. Liaison with groups who have expressed particular interest, including, but not limited to, environmental groups, to sound out attitudes toward potential alternatives and assessment criteria.

7. Survey, of selected opinion leaders and group representatives, to determine attitudes toward regional air and water quality, and solid waste management alternatives and assessment criteria.

METHOD: Previous techniques will be continued.

COORDINATION REQUIREMENTS: The citizens working groups will be meeting regularly providing direct comments on proposed assessment criteria. Training sessions, on environmental quality matters, and on planning and analysis procedures, will be provided for the work groups by the planning agency.

TASK: Identification of Problems and Projections.

PURPOSE: This task is to provide the public with opportunities to help identify problems of air and water quality and solid waste.

RESPONSIBILITY: ABAG.

START AND COMPLETION DATE: Month 6 to month 10.

INPUTS: Planning and technical products on projections and environmental management issues.

MAJOR PRODUCTS AND EVENTS: Identification of public views on such issues as:

1. how solid waste, air and water quality issues are ranked in priority with other community goals.
2. unique local concerns and issues about air and water quality management.
3. local attitudes toward growth and conservation issues.
4. feelings about the importance of local vs. regional management of air and water quality and solid waste programs.
5. how willing the public is to consider technological and institutional innovations in environmental management.
6. initial feelings about what citizens would like assessed, what basic choices must be made, and initial criteria for assessment.
7. willingness of the public to pay for environmental management programs.

METHOD: Previous techniques will be continued.

COORDINATION REQUIREMENTS: The citizens' working groups at local and regional levels will be meeting regularly and will provide direct comments on the above issues. Some orientation and training for the working groups, both on matters of substance and on procedures for planning and analysis, will need to be provided.

TASK: Assessment of Management Plan Alternatives.

PURPOSE: During this stage, preliminary economic, social and environmental impact assessment of each of the alternatives being considered will be presented to the public and their response solicited.

RESPONSIBILITY: ABAG and local lead agencies.

START AND COMPLETION DATE: Month 6 to month 20.

INPUTS: Major products from planning program.

MAJOR PRODUCTS AND EVENTS: This stage will include public meetings and a sample survey. Emphasized will be media presentations and publications describing the alternative environmental management plans being considered.

METHOD: Previous techniques will be continued. In addition, new techniques to be used are:

1. Interviews and informal contacts with officials and opinion leaders, to obtain their responses to and preferences for the various alternatives under consideration. Special efforts will be made to obtain the reactions of those most affected by the plan.
2. Workshops, perhaps using selected simulation game techniques with working group members and other interested parties, to assist participants in evaluating the impacts of various alternatives within the framework of evaluation criteria established in earlier stages of the planning process.

COORDINATION REQUIREMENTS: Since environmental management planning is but one aspect of community planning, it is important, that how community goals may conflict or be compatible with air, water and solid waste pollution control alternatives be considered.

Initial citizen views must also be solicited on the compatibility of various possible air, water and solid waste pollution control approaches (municipal and industrial source control, urban development and land management control for point and nonpoint sources, and control of residual waste) with other community goals.

Local citizen views concerning the nature, timing, rate, and location of future development and growth policies (particularly housing, industrial, commercial, transportation, open space, resource recovery and recycling) will be critical in determining the suitability of the pollution control approaches.



Public reaction to possible management alternatives of the Plan will be solicited. Compatibility of the management alternatives with the programs and responsibilities of the following kinds of areawide planning and implementation agencies and levels of government will be considered:

- regional comprehensive planning agencies
- general purpose local governments
- utility districts
- air quality control agencies
- soil conservation districts
- solid waste planning agencies
- flood control districts
- transportation planning agencies
- regional parks and recreation agencies
- regional coastal zone conservation commissions

TASK: Development of Recommended Management Plan.

PURPOSE: In making the final decision as to which plan strategies will be selected as part of the recommended Environmental Management Plan, public comment is needed to inform decision makers as to how community goals and preferences influence tradeoffs among alternatives.

RESPONSIBILITY: ABAG and local lead agencies.

START AND COMPLETION DATE: Month 14 to month 24.

INPUTS: Major planning program products.

MAJOR PRODUCTS AND EVENTS: During this stage, special attention will be directed toward making elected officials aware of public comments and opinions.

METHOD: Previous participation techniques will be continued, with emphasis on:

1. public hearings and public meetings.
2. public information through the news media (e.g., a television seminar or debate would be useful in bringing out the issues behind the choices).
3. publications that document the technical and management elements of each alternative.
4. speeches that highlight the ramifications and importance of the decision.

COORDINATION REQUIREMENTS: As in previous steps, special efforts will be made to involve the citizens' working groups at local and regional levels, as well as those agencies most directly responsible for implementing the recommended management plan.

TASK: Development of a Continuing Planning Process.

PURPOSE: This task will ensure public participation in developing a continuing planning process for environmental management.

RESPONSIBILITY: ABAG and local lead agencies.

START AND COMPLETION DATE: Month 14 to month 20.

INPUTS: Major planning products, including those on the financial and institutional arrangements necessary for environmental management.

MAJOR PRODUCTS AND EVENTS: Development of mechanisms to ensure effective public participation in the continuing planning process, including but not limited to participation:

1. in planning for individual waste treatment projects, ordinances and institutional arrangements
2. for periodic updating of the program
3. for monitoring progress under the program.

METHOD: Assess whether the participation organizations created for the planning process can serve these ongoing functions. Evaluate whether local advisory and regional working groups should be convened:

1. whenever a new individual facilities project request is received
2. when any major modification of the program is necessary
3. during annual facilities budget reviews, where required
4. for an annual review and evaluation of progress under the program.

Identify other phases of implementation where public involvement may be particularly constructive, including:

1. the planning of facilities required for plan implementation and the raising of revenue for the facilities
2. the creation or modification of air and water quality and solid waste standards and the issue

of permits required for pollution sources in the area

3. the monitoring of pollution sources and development of technical standards for new pollution sources.

COORDINATION REQUIREMENTS: It will be necessary to provide local and regional public participation organizations with the channels to appeal decisions regarding environmental management programs and facilities to the appropriate regional, State and Federal agencies responsible for these programs. Opportunities to appeal the omission of actions included in the environmental management plan should also be provided.



TASK: Monitoring and Evaluation.

PURPOSE: Because participatory planning is more an art than a science, it is necessary to both continuously monitor and periodically evaluate the participation program.

RESPONSIBILITY: ABAG and local lead agencies.

START AND COMPLETION DATE: Month 0 to month 24.

INPUTS: Major products from public participation programs at both regional and local levels.

MAJOR PRODUCTS AND EVENTS: To monitor the program, a "participation log" will be kept of:

1. Public contacts with the planning agency, including written requests for information or technical assistance, and volunteering of attitudes or information.
2. Meeting and hearing attendance and nature of statements (logged as to groups or viewpoints represented, size of representation, preferences expressed, issues remaining to be settled, and need for further contact).
3. Public-sponsored participation events, such as public meetings, workshops, group liaisons, and the like (logged as to number and characteristics of participants, outcome of event, and effectiveness of method).
4. Media coverage, as indicated by the clipping file and monitoring of broadcast media.

Monitoring will be a regular in-house activity of the planning agency. Results of monitoring will be routinely passed to agency staff and to advisory group members.

METHOD: To periodically evaluate the participation program, an annual "participation effectiveness survey" will be undertaken. The survey will attempt to compare participants and non-participants in terms of:

1. Their knowledge and understanding of the 208 program, the environmental quality issues in the region, and the alternatives under consideration.
2. Their attitudes toward institutional and technological innovation in environmental quality management.

3. Their evaluation of the accessibility and responsiveness of regional decision-making on environmental quality matters.
4. Their sources of information on environmental quality matters.
5. Their evaluation of the adequacy of information available to them on air and water quality, and on solid waste matters.
6. Their attendance at public hearings or meetings, viewing of exhibits, or other involvement with environmental management activities.
7. Their suggestions for change or improvement in public participation methods.

COORDINATION REQUIREMENTS: Survey findings will be reported to staff, advisory groups, and decision-makers. Results of the monitoring and evaluation will provide the basis for the "Summary of Participation", required by the participation regulations of the Administrator of the Environmental Protection Agency. The major issues raised in the public participation program, and the response to these issues will be documented as part of this summary.

TASK: Local Public Participation.

PURPOSE: This task is to provide opportunities for the public to participate in local level environmental management programs.

RESPONSIBILITY: Local lead agencies and ABAG.

START AND COMPLETION DATE: Month 0 to month 24.

INPUTS: ABAG Public Affairs Officers will assist local agencies in establishing and maintaining an effective public participation program. However, they should be viewed as liaison personnel among local and regional programs only. Lead agencies will be required to provide staff whose major responsibility will be to implement the public participation program.

ABAG planning and technical staff will be available as resource personnel for public meetings, whenever possible, to describe current planning issues, and to learn of public comments.

ABAG's public information program will focus on regional issues of this and other related water and air quality programs, general background and information concerning the program, and regional water and air quality management alternatives and impacts. Local agencies will be responsible for local public information programs dealing with local issues and alternative plans.

MAJOR PRODUCTS AND EVENTS: Prior to the commencement of work, the lead agency will submit a public participation work plan to ABAG for approval. This work plan will include:

1. A description of the proposed participation program and organization - including methods for participation selection.
2. A description of the public participation methods to be employed.
3. Specific tasks, and their relation to the planning steps described in the regional program.
4. A description of processes that will ensure active participation during the implementation and management phase.
5. A description of the monitoring and evaluation process.

6. A description of the compatibility of the proposed local program with the regional program and the relation of the public to local and regional decision-makers.
7. A description of proposed staffing, budget and support services for the local public participation program.

METHOD: The organizational arrangements chosen to provide local public participation are a matter of local discretion. However, they must:

1. Provide clearly defined channels that encourage and facilitate contacts between citizens and policy-makers - both local and regional.
2. Define responsibility for actively carrying out public involvement activities.
3. Provide adequate resources for public participation throughout the planning process.
4. Be responsive to all interested citizens, but not dominated by any single interest group.

COORDINATION REQUIREMENTS: Regional and local public participation programs will have to be linked. Variability in local programs must be allowed. Although a number of institutional arrangements may meet EPA's public participation requirements, a formal mechanism to ensure full citizen understanding and approval of the selected plan will probably be necessary, given the scope and complexity of areawide water quality management.

In addition, all current EPA and other public agency regulations and guidelines for public participation in air and water quality and solid waste programs must be met, and should be viewed as a minimum toward meeting public participation requirements. These include:

1. Informational materials on policy, program, and technical information shall be provided at the earliest practicable times and at places easily accessible to interested or affected persons and organizations so that they can make informed and constructive contributions to governmental decision-making. Technical information and all other informational material will be distributed to all regional depositories established for this purpose. News releases, newsletters, and other publications may be used. Special efforts shall be made to summarize complex technical materials for public and media use.



2. Assistance to the public, technical and informational, shall be provided for citizen education, community workshops, training, and dissemination of information to communities. Requests for information shall be handled promptly.
3. Consultation arrangements shall be made for exchange of views with interested or affected persons and organizations or development or revision of plans, programs, or other significant actions prior to decision-making. Advisory groups, ad hoc committees, or workshop meetings may be used.
4. Notification of interested persons and organizations shall be ensured through maintenance of a current list of those interested within ABAG's geographic area, to be used for periodic distribution of informational materials, and by compliance with requirements for public notice, supplemented with informal notice to those having requested it, for public hearings.
5. Access to information shall be provided through one or more central public collections or depositories of pertinent air and water quality and solid waste reports and data (for example, grant and permit applications, permits, effluent discharge information, and compliance schedule reports), along with copying facilities at reasonable cost.
6. Enforcement of air, water and solid waste pollution control laws shall be facilitated through encouraging public effort in reporting violations, developing and publishing procedures for receiving and considering evidence submitted by citizens, and investigating promptly alleged violations.
7. Legal procedures shall be open to the public, in the form of full information, subject to court requirements and limitations of the conduct of the litigation; and EPA actions shall be consistent with the Statement of Policy of the Department of Justice regarding opportunities for public comment prior to judgments enjoining pollution dischargers.
8. Rule making shall be opened to public scrutiny through public hearings, consideration of written comments from interested or affected persons or organizations, distribution of notices or proposed rule makings, and availability of texts of proposed and final rules.

## PLAN INTEGRATION AND ADMINISTRATION

This major grouping of tasks includes the following:

- . Report preparation
- . Integration and adoption of management plans
- . Study management and administration

Report preparation includes work of ABAG's publications department in preparing reports, as well as visual aids and other graphic or written material in support of the planning program.

Integration and adoption of management plans consists primarily of the regional work by ABAG during the last year of the program in integrating the management plans and supporting the hearings and adoption procedures.

Study management and administration includes management of the two-year planning program, including allocation of work, budget control, and contract administration.

## REPORT PREPARATION

TASK: Prepare Interim Reports, Visual Aids, Mail-Outs, etc.

PURPOSE: The purpose of this task will be to provide appropriate agencies, committees, officials, citizens, and staff with printed and/or graphic information about the development of the environmental management plan.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to month 17

INPUTS: Inputs to this task will be requests for graphic services, cartographic services, publication design and coordination, and typing, printing, and mail services.

MAJOR PRODUCTS AND EVENTS: There will be many products of this task, including graphics for brochures, newsletters, technical reports, and summary/progress reports. Visual aids and hand-out materials will be prepared for meetings. Mail-out materials will be printed and mailed for meetings.

METHOD: Procedures currently utilized at ABAG will be followed for publication coordination, graphic and cartographic support, and printing. Publication schedules will be produced and followed. Cartography and Graphics service support will be processed through Technical Services work-orders. Printing and typing procedures will be followed as established.

COORDINATION REQUIREMENTS: Coordination will be required among all tasks producing printing and/or graphic products, particularly those tasks related to overall coordination (EMTF), the management plans, and citizen participation.

BUDGET: \$63,000

TASK: Prepare Draft Final Report

PURPOSE: The purpose of this task is to prepare the actual draft final report for the integrated environmental management plan.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 17 to month 20

INPUTS: Inputs to this task will be draft material prepared by/for the environmental management plan integration task.

MAJOR PRODUCTS OR EVENTS: The product of this task will be a document or set of documents referred to as the Environmental Management Plan for the San Francisco Bay Region.

METHOD: The design and production of the Environmental Management Plan will flow from a systematic evaluation of purpose and possible design options to fulfill that purpose. The objective of this effort will be to create a document that clearly demonstrates the manner in which the separate management plans have been integrated into an overall Environmental Management Plan for the San Francisco Bay Region.

COORDINATION REQUIREMENTS: This task will be closely coordinated with the plan integration function and the overall management coordinating team.

BUDGET: \$16,500



TASK: Prepare Responses to Comments on the Environmental Management Plan

PURPOSE: The purpose of this task is to prepare a final report addendum that incorporates comments on the final report and responses by those preparing the Management Plan.

INPUTS: Inputs to this task will be comments that primarily come from hearings conducted by various agencies on the Environmental Management Plan. These comments and responses to them will constitute the draft material input to the preparation of the report addendum.

MAJOR PRODUCTS OR EVENTS: The product of this task will be an addendum report to the final Environmental Management Plan.

METHOD: It is not known at this point how this addendum will be compiled beyond ABAG's standard procedures for report compilation. The addendum will be designed as a companion to the Environmental Management Plan document(s).

COORDINATION REQUIREMENTS: This task will have to be closely coordinated with the overall management function to ensure that comments and responses are accurately and appropriately documented.

BUDGET: \$5,500

## INTEGRATION AND ADOPTION OF MANAGEMENT PLANS

The Environmental Management Plan for the San Francisco Bay Region will include but not be limited to the areawide wastewater management plan as set forth in s. 208 of the Federal Waste Pollution Control Act Amendments of 1972, the air quality maintenance plan (AQMP) prepared pursuant to the Clean Air Act of 1970 and a solid waste plan for solid waste management issues of regional significance.

The 208 plan will be composed of management plans for surface runoff, municipal wastewater facilities, nonpoint sources, industrial discharges and water conservation, reuse and supply. The AQMP will contain programs for the control of stationary and automobile related sources of air pollution. The solid waste plan will contain programs for the management of municipal wastes, hazardous wastes and residuals (sewage sludge). Of the various management plans, the surface runoff management plan will be somewhat unique in that it will be an integration of eight subregional management plans.

The following activities to be performed by the regional agency are critically important in that they relate to integrating the various management plans into one regional environmental management plan and ensuring that the resultant plan is adopted by the appropriate agencies. The activities take place in three phases. During the first fourteen months of the program, the primary functions of these activities will be to monitor progress in preparing the separate management plans (eight subregional surface runoff plans, plus six other management plans) and to determine policy issues which should be taken to the Environmental Management Task Force or its subcommittees for review or technical issues which should be referred to an appropriate technical advisory committee for study.

The second phase consists of the compilation of these management plans, resolution of inconsistencies between these plans, adjustment of the plans, an assessment of alternative regional plans if such alternatives are developed, and the production of a final draft plan. The third phase consists of receiving comments on the plan and routing the plan to the appropriate regional, State and Federal agencies for certification and adoption.

TASK: Monitor Management Plan Development

PURPOSE: To monitor the preparation of the fourteen individual management plans for consistency with the approved work program and submit issues to the Environmental Management Task Force or its subcommittees when policy guidance is needed.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 1 to 13

INPUTS: Approved environmental management work program, progress reports submitted by other agencies and contractors, individual management plans, special studies, data base, and regional supporting services.

MAJOR PRODUCTS: Recommendations to the Environmental Management Task Force and its subcommittees in the form of agenda packets, requests to EPA, SWRCB and ARB for approval of changes in work program as needed, and requests to local agencies and contractors to modify procedures found inconsistent with the work program.

METHOD: Review progress by participating agencies and contractors, evaluate progress for consistency with work program and procedures and formats suggested by ABAG, and notify the Environmental Management Task Force and its subcommittees of progress on a monthly schedule.

COORDINATION REQUIREMENTS: All tasks in approved work program.

BUDGET: \$58,000

TASK: Progress Memorandum

PURPOSE: To prepare at the regional level a progress report on the preparation of the management plans.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 6 to 7

INPUTS: Progress reports on subregional management plans, consultant work and tasks assigned to ABAG staff.

MAJOR PRODUCTS: One progress memorandum which would identify probable outcomes of each of the management plans and special studies and recommend to policy bodies and staff work program adjustments and possible expenditure of contingency funds.

METHOD: Review all progress reports and policy body decisions for consistency with work program.

COORDINATION REQUIREMENTS: All tasks in approved work program.

BUDGET: \$1,000



TASK: Progress Memorandum

PURPOSE: To prepare at the regional level a further progress report on the preparation of the management plans.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 10 to 11

INPUTS: Progress reports on subregional management plans, consultant work and tasks assigned to ABAG staff with emphasis on possible inconsistencies among task assignments completed to date.

MAJOR PRODUCTS: One progress memorandum which would serve as an "early warning system" to staff and policy bodies on the detailed contents of the management plans and possible conflicts.

METHOD: Review all progress reports and policy body decisions for consistency with original and revised work program and developing environmental management plan framework.

COORDINATION REQUIREMENTS: All tasks in revised work program.

BUDGET: \$1,000

TASK: Compile and Adjust Local Near-term Surface Runoff Plans

PURPOSE: To compile and adjust at the regional level near-term control measures proposed in each of the subregional surface runoff plans.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 10 to 12

INPUTS: Subregional near-term surface water management plans containing control measures.

MAJOR PRODUCTS: A report which will examine possible ways of integrating subregional plans within an overall regional surface runoff plan. The report will provide guidance for staff responsible for integrating other management plans at the 14th month point.

MEHTOD: Liaison with subregional agencies responsible for preparing surface runoff plans, review of previous surface water planning efforts including ABAG's Sonoma County Study and Corps of Engineers work, and evaluation of strategies developed by local agencies.

COORDINATION REQUIREMENTS: Surface runoff modeling, water quality modeling.

BUDGET: \$2,400

**TASK: Integrate Management Plans**

**PURPOSE:** To compile the management plans, identify and resolve inconsistencies, and propose an overall regional environmental management plan framework consisting of an areawide wastewater management plan, an air quality maintenance plan and a regional solid waste management plan, and appropriate special study results.

**RESPONSIBILITY:** ABAG

**START AND COMPLETION DATE:** Month 14 to 20

**INPUTS:** Subregional surface runoff plans, other regional management plans, special studies, results of assessment and evaluation and institutional/financial analysis that deals with positive and negative externalities of individual management plans.

**MAJOR PRODUCTS:** Develop a set of procedures for resolving inconsistencies between individual management plans which would be applied by ABAG staff and staff of other participating agencies subject to the overview of the Environmental Management Task Force and its subcommittees. Produce an environmental management plan framework. Produce a report identifying conflicts needing regional, State or local resolution with recommendations on how to resolve the conflicts.

**METHOD:** Apply procedures that allow the determination of whether common data and analysis has been used and whether consistent data and analysis has been used. Use evaluation criteria established in the assessment process and provide consistent categories of policy and technical concern for review by EMTF. Review management plans and special study results for consistency with work program objectives Federal and State requirements.

**COORDINATION:** Assessment and Evaluation, Institutional/Financial, Study Management and Administration, management plans, Citizen Participation tasks.

**BUDGET:** \$14,500

TASK: Describe Environmental Management Plan

PURPOSE: To document the integration of the separate management plans into the environmental management plan framework, including a description of recommended local and regional institutional/ financial mechanisms and the results of assessment and evaluation of the individual management plans.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 16 to 20

INPUTS: Individual management plans, results of management plan integration task, water quality objectives, Institutional/ Financial analysis.

MAJOR PRODUCTS: The Environmental Management Plan, consisting of the areawide wastewater management plan, the air quality maintenance plan, and the solid waste management plan.

METHOD: Write draft environmental management plan or plan alternatives based on earlier analysis by staff and policy decisions made by the Environmental Management Task Force.

COORDINATION REQUIREMENTS: Citizen Participation, Study Management and Administration, Integration of Management Plans.

BUDGET: \$18,300



TASK: Attend Hearings; Note and Prepare Responses; Submit Plan for Certification or Approval to Regional, State and Federal Agencies

PURPOSE: To attend hearings on local management plans and the regional environmental management plan, prepare responses to comments, make modifications in plans as appropriate and submit plans for certification and approval.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 20 to 24

INPUTS: (1) Describe Current Planning Procedures and Practices, (2) Analyse Planning Process and Management Plan for Continuing Planning Process.

MAJOR PRODUCTS: Revisions to the Environmental Management Plan and Continuing Planning Process. Adjustments in Plan Certification and approval schedule.

METHODS: Classify responses either as related to technical/information, policy, or implementation. For technical/information issue amplified reports as necessary or consider as proposals for new programs or special studies under the Continuing Planning process. Present policy issues as possible amendments to the Environmental Management Plans. Present implementation issues as revisions to the Continuing Planning process.

COORDINATION REQUIREMENTS: Development and description of the Continuing Planning Process, Citizen Participation, Report Preparation.

BUDGET: \$4,800

## PROGRAM MANAGEMENT AND ADMINISTRATION

TASK: Program management and coordination

PURPOSE: The purpose of this task is to insure the effective management and coordination of the entire 208 program. Given the size and complexity of the program and ABAG's objective of integrating it with other agency programs, this is an extraordinarily important task.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to completion

INPUTS: Environmental Management work plan, ABAG's existing management and budgeting procedures, consultant report on special or additional procedures necessary for managing the 208 program.

MAJOR PRODUCTS AND EVENTS: Financial report, work plan progress report, meetings and agendas for EMTF and Program Review Board.

METHODS: ABAG's existing management control and information systems will be employed. These include management-by-objective work programming from the department to the individual levels; weekly meetings of the ABAG Program Management Group (PMG), composed of the Associate Executive Director, Director of Planning and Programming, Director of Technical Services, and Assistant to the Executive Director with the 208 Program Coordinator and key project staff. The purpose of these meetings will be to review progress on the work plan and the status of the budget. Work reviewed will include tasks done by consultants or other agencies, as well as that done by ABAG staff. In addition, a consultant contract will be let for an analysis of ABAG's existing management procedures to determine if supplementary practices need to be implemented for 208.

COORDINATION REQUIREMENTS: All tasks.

BUDGET: \$115,000

TASK: Contract Administration

PURPOSE: The purpose of this task is to perform all administrative activities related to contracts let during the course of the 208 program.

RESPONSIBILITY: ABAG

START AND COMPLETION DATE: Month 0 to completion

INPUTS: Requests for contract services of consultant or agency

MAJOR PRODUCTS AND EVENTS: Contracts, review of contractor's financial reports and records

METHODS: See ABAG Administrative Policies

COORDINATION REQUIREMENTS: Study management and coordination

BUDGET: \$35,000

## BUDGET

The budget is shown on Table 1. Listed below are pertinent points concerning the budget:

It is preliminary and has not been refined to the point where, for example, allocations can be made between ABAG staff and consultants. This budget has been prepared as a basis for comment.

The budget only reflects the 208 grant. It does not include money or staff support from other sources. Some support is now assured for the Air Quality Maintenance Plan. Additional significant support is likely for both air quality and solid waste.

About 7 percent of the total is now budgeted for citizen participation.

Because such comprehensive environmental planning has not been attempted in this region, there is some uncertainty now regarding the distribution of funds. Therefore, a contingency fund of about 12 percent has been set aside. This contingency fund will likely be allocated to citizen participation and the regional integration of management plans.

The distribution of the total among water quality, air quality, and solid waste reflects the fact that the grant was authorized in the federal Water Pollution Control Act Amendments of 1972. The distribution is as follows:

Water Quality	70 percent
Air Quality	20 percent
Solid Waste	10 percent

As mentioned above, additional support is likely for the latter two categories.

The distribution of funds between technical work directly related to the preparation of management plans and other work (administration, management, etc.) is as follows:

Management Plans	70 percent
Other	18 percent
Contingency	12 percent



TABLE 1<sup>1/</sup>

MANAGEMENT PLANS	1,470,000
Surface runoff	600,000
Air quality maintenance	300,000
Municipal wastewater facilities	80,000
Nonpoint sources other than surface runoff	70,000
Industrial discharges	80,000
Water conservation, reuse, and supply	130,000
Solid waste	210,000
DATA BASE	420,000
Water quality data collection	135,000
Environmental data management system	150,000
Data collection by local agencies	135,000
REGIONAL SUPPORTING SERVICES	580,000
Population, land use, employment projections	80,000
Water and air quality analytical procedures	300,000
Assessment procedures	100,000
Institutional/financial analysis	100,000
CITIZEN PARTICIPATION	300,000
PLAN INTEGRATION AND ADMINISTRATION	385,000 <sup>2/</sup>
Publications	85,000
Integration of management plans	150,000
Study management and administration	150,000
CONTINGENCY	440,000
SPECIAL STUDIES	290,000
Delta outflow	80,000
Shellfish	30,000
Algal blooms	50,000
Dungeness crabs	20,000
Fish kills	40,000
Dredging	20,000
Energy/air quality	30,000
Contingency plans	20,000
STATE WATER RESOURCES CONTROL BOARD	200,000
	\$4,085,000 <sup>3/</sup>

1/ See task descriptions for budgets of individual tasks.

2/ Includes budgets for Continuing Planning Process and Water Quality Objectives Tasks although these tasks have separate task descriptions in the previous section.

3/ Does not include funds for preparation of work program.

## RESOLUTIONS OF INTENT

This section consists of a draft Resolution of Intent, which ABAG will be asking local agencies to sign before work is begun.

## AGREEMENTS WITH OTHER AGENCIES

As this draft is being prepared, work has just begun on the development of agreements with other agencies. These will be included in the final work plan.

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